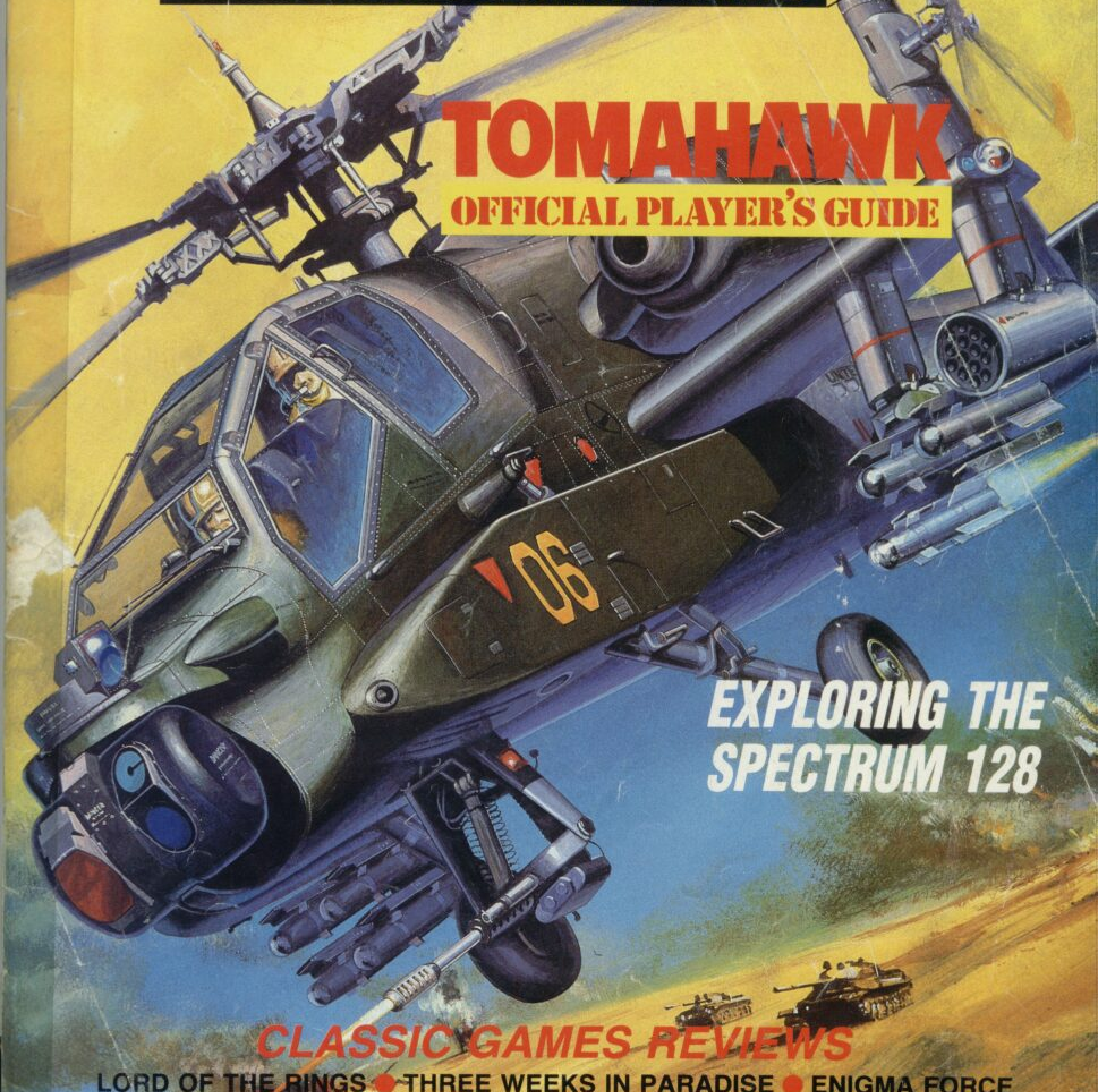
February 1986 No. 47

95p

sinclair user

BRITAIN'S BEST SELLING COMPUTER MAGAZINE



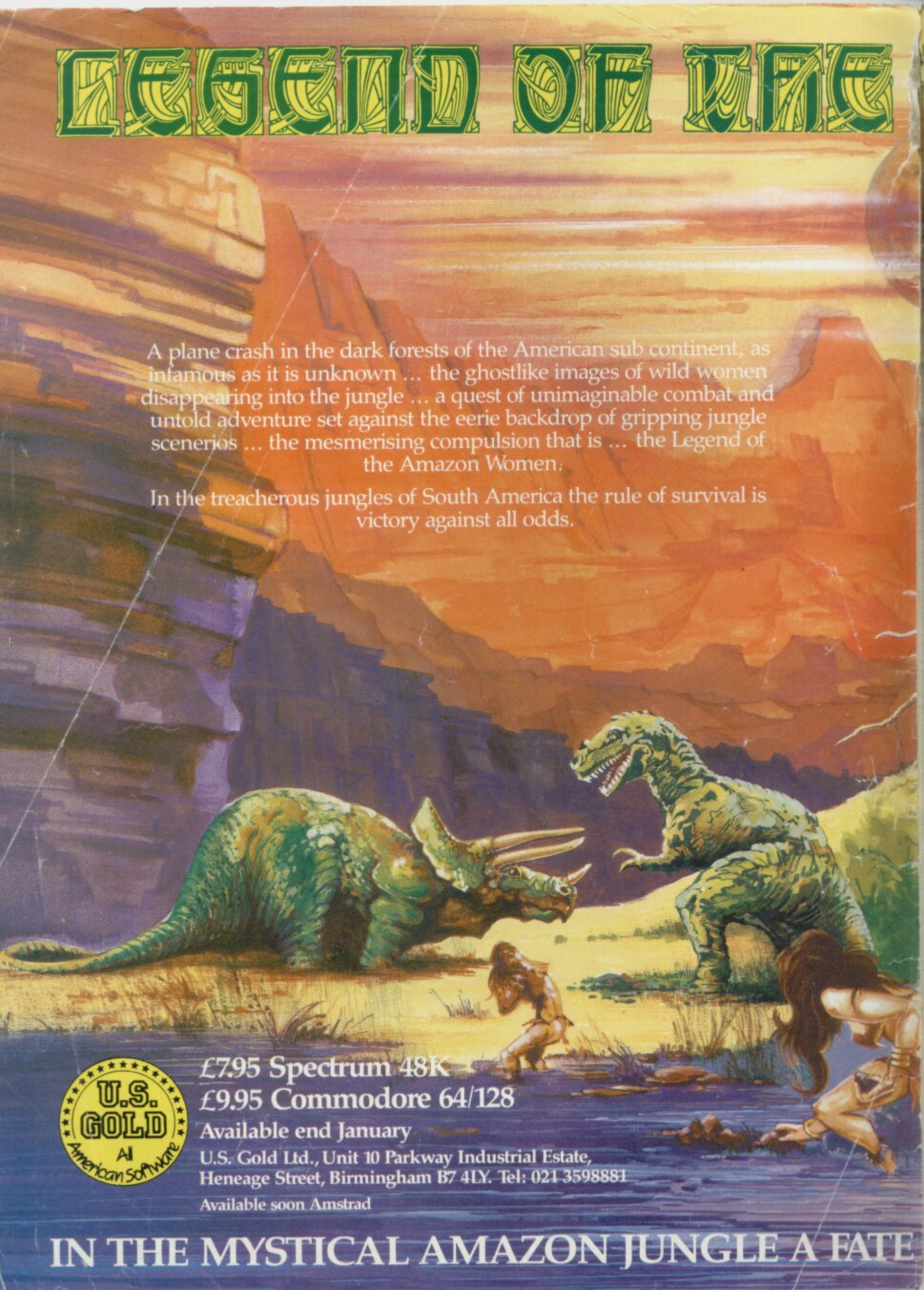
TOMAHAWK

OFFICIAL PLAYER'S GUIDE

EXPLORING THE SPECTRUM 128

CLASSIC GAMES REVIEWS

LORD OF THE RINGS ● THREE WEEKS IN PARADISE ● ENIGMA FORCE


LEGEND OF THE
A plane crash in the dark forests of the American sub continent, as infamous as it is unknown ... the ghostlike images of wild women disappearing into the jungle ... a quest of unimaginable combat and untold adventure set against the eerie backdrop of gripping jungle scenerios ... the mesmerising compulsion that is ... the Legend of the Amazon Women.
In the treacherous jungles of South America the rule of survival is victory against all odds.
U.S. GOLD
All American Software
£7.95 Spectrum 48K
£9.95 Commodore 64/128
Available end January
U.S. Gold Ltd., Unit 10 Parkway Industrial Estate,
Heneage Street, Birmingham B7 4LY. Tel: 021 3598881
Available soon Amstrad
IN THE MYSTICAL AMAZON JUNGLE A FATE


AMAZON WOMEN
WORSE THAN DEATH
AWAITS YOU ...

sinclair user

BRITAIN'S BEST SELLING COMPUTER MAGAZINE

Editor
Bill Scolding
Deputy editor
John Gilbert
Staff Writers
Chris Bourne
Clare Edgeley
Designer
Gareth Jones
Editorial secretary
Norisah Fenn
Adventure writers
Richard Price
Gordo Greatbelly
Helpline
Andrew Hewson
Hardware correspondent
John Lambert
Business correspondent
Mike Wright
Contributors
Nicole Segre
Jerry Muir
Megan Jones
Marcus Jeffery
Advertisement manager
Louise Fanthorpe
Deputy Advertisement manager
Shahid Nizam
Advertisement sales executive
Kathy McLennan
Production assistant
Jim McClure
Advertisement secretary
Linda Everest
Subscriptions manager
Carl Dunne
Publisher
Neil Wood
Telephone
01-251-6222

Sinclair User is published monthly by EMAP Business & Computer Publications

Cover illustration
Paul Barnes for Digital Integration

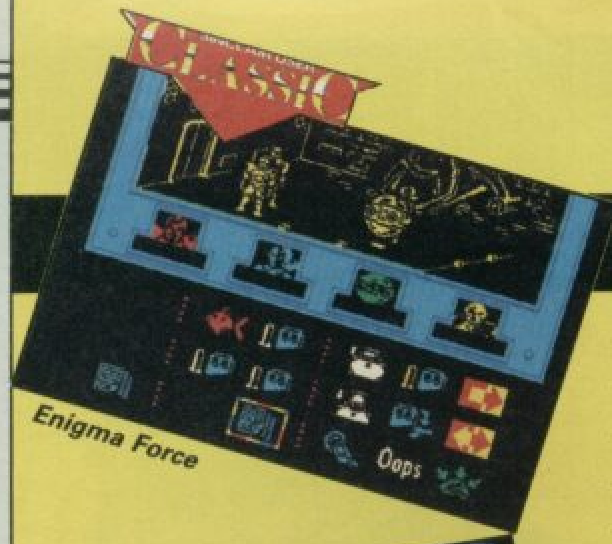
If you would like to contribute to Sinclair User please send programs or articles to:
Sinclair User
EMAP Business & Computer Publications
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

Original programs should be on cassette and articles should be typed. Please write Program Printout on the envelopes of all cassettes submitted. We pay £20 for each program printed and £50 for star programs.

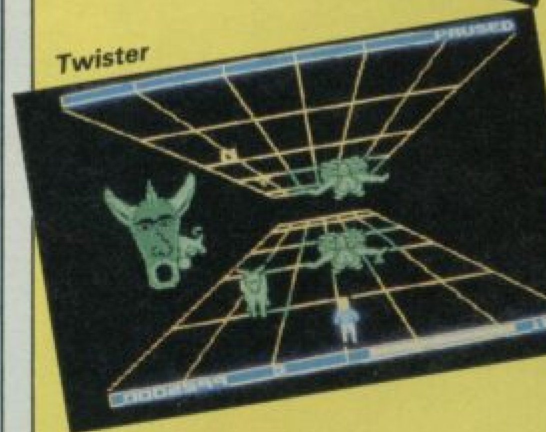
Typeset by Saffron Graphics Ltd, London EC1.
Printed by Peterboro' Web, Woodston, Peterborough.
Distributed by EMAP Publications Ltd.

ISSN No 0262-5458

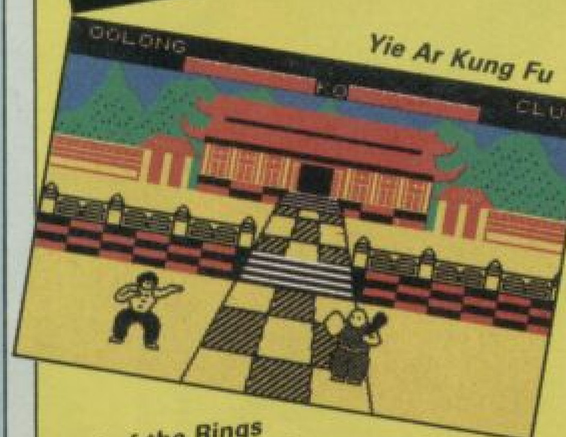
ABC 102,023 Jan-June 1985



Enigma Force



Twister



Yie Ar Kung Fu

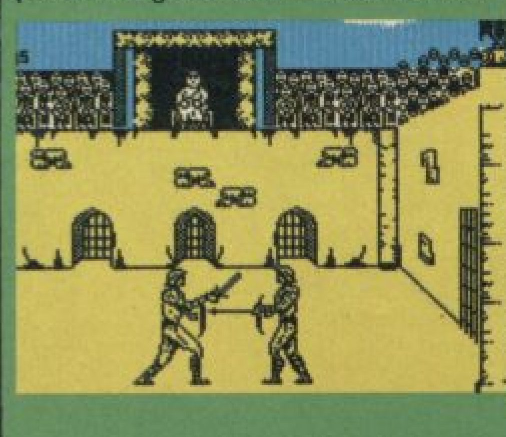


Lord of the Rings

SOFTWARE

ADVENTURE

COMPETITION

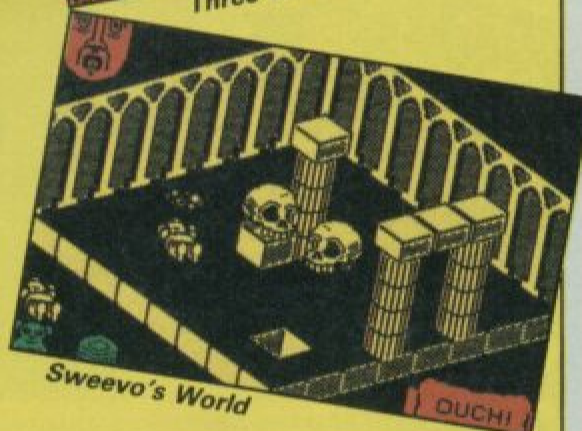


HARDWARE

Contents



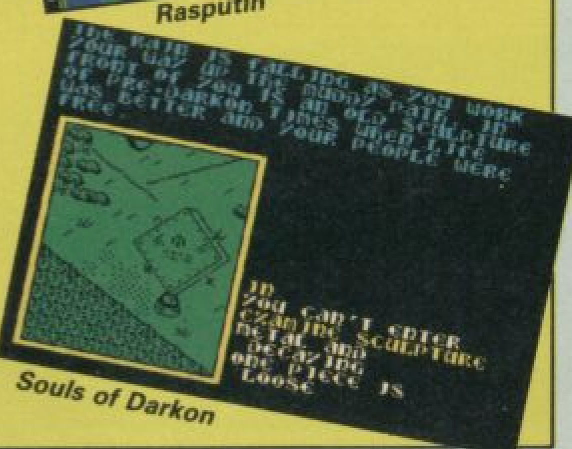
Three Weeks



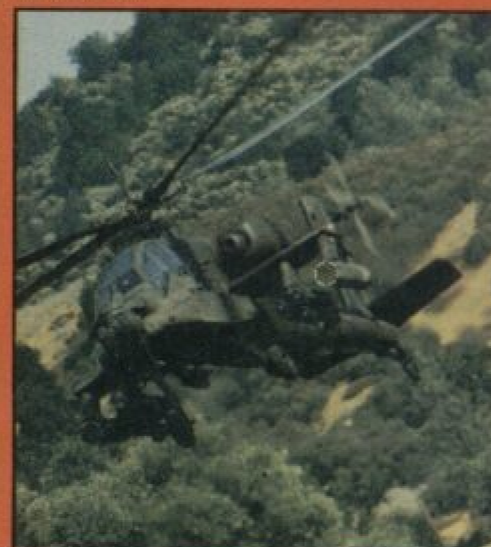
Sweevo's World



Rasputin


Souls of Darkon

FEATURES



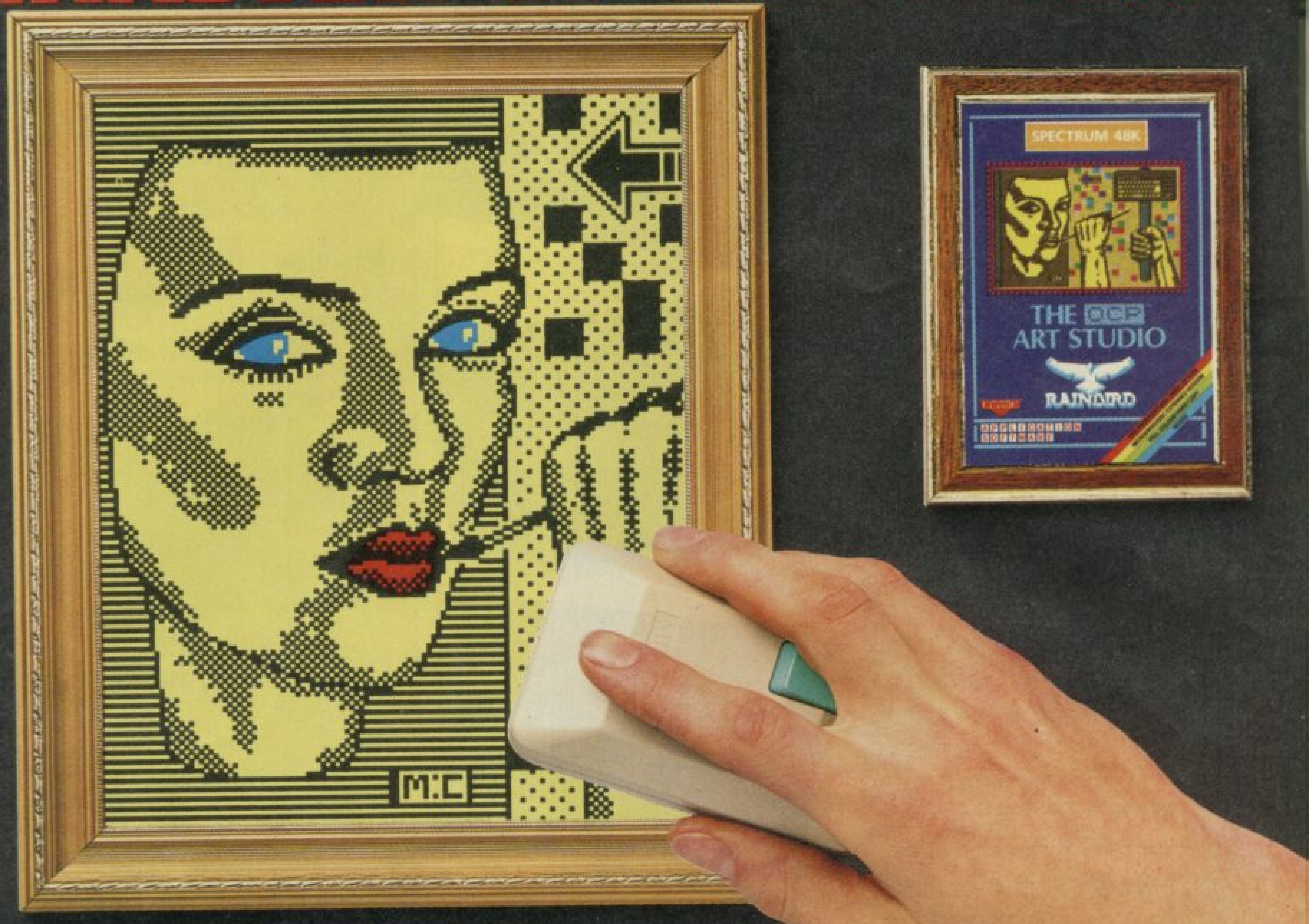
LISTINGS



QLINK

REGULARS

MASTER OF THE ART....



AT LAST A SPECTRUM GRAPHICS PACKAGE THAT IS FUN AND EASY TO USE. THE OCP ART STUDIO CONTAINS EVERY FEATURE YOU WILL NEED TO CREATE BEAUTIFUL ILLUSTRATIONS. IT WORKS WITH THE AMX MOUSE FOR EVEN GREATER EASE AND OUR HARD COPY OFFER MEANS YOU CAN HANG YOUR MASTERPIECE ON THE WALL

DO IT ALL – CREATE AN IMAGE. SHRINK IT, EXPAND IT, MOVE IT, ROTATE, COPY IT, COLOUR IT, SPRAY ON A PATTERN OR SHADE. MAKE ELASTIC LINES, TRIANGLES, RECTANGLES, CIRCLES – STRETCH AND MANIPULATE. ADD TEXT OR CHARACTERS, UP, DOWN, SIDEWAYS – ANY SIZE OR PROPORTION. ZOOM IN TO DRAW IN FINE DETAIL. SHRINK THE WHOLE PICTURE TO ADD BACKGROUND.

- Pull down menus. * Icon driven.
- Keyboard, joystick, mouse control.
- Dot matrix printer dumps, 5 sizes and grey scale – up to 80 columns.
- Supports 17 printer interfaces.
- 16 pens, 8 sprays and 16 brushes.
- 32 user-redefinable texture fills.
- Wash texture. * Undo facility.
- Snap facility. * Pixel edit.
- Cut, paste, turn, enlarge, reduce.
- Magnify (3 levels) pan and zoom.
- Text. 9 sizes, 2 directions, bold.
- Font editor with invert, rotate flip, clear, capture from window.
- Elastic line, triangle, rectangle.
- Low cost full colour prints offer.
- Upgrade offer. * Mouse offer.

SINCLAIR USER CLASSIC

"An extremely powerfull utility which should be of use to professional artists and designers as well as the home user"

RAINBIRD

THE OCP ART STUDIO £14.95

OR

EXTENDED ART STUDIO £24.95

For use with disc or microdrive only, and compatible with K DOS and SP DOS disc interfaces (supplied on cassette). Includes disc and microdrive operating systems, screen compression programme, four extra fonts and Kempston mouse compatibility (in addition to AMX). **(Available Mail Order Only)**

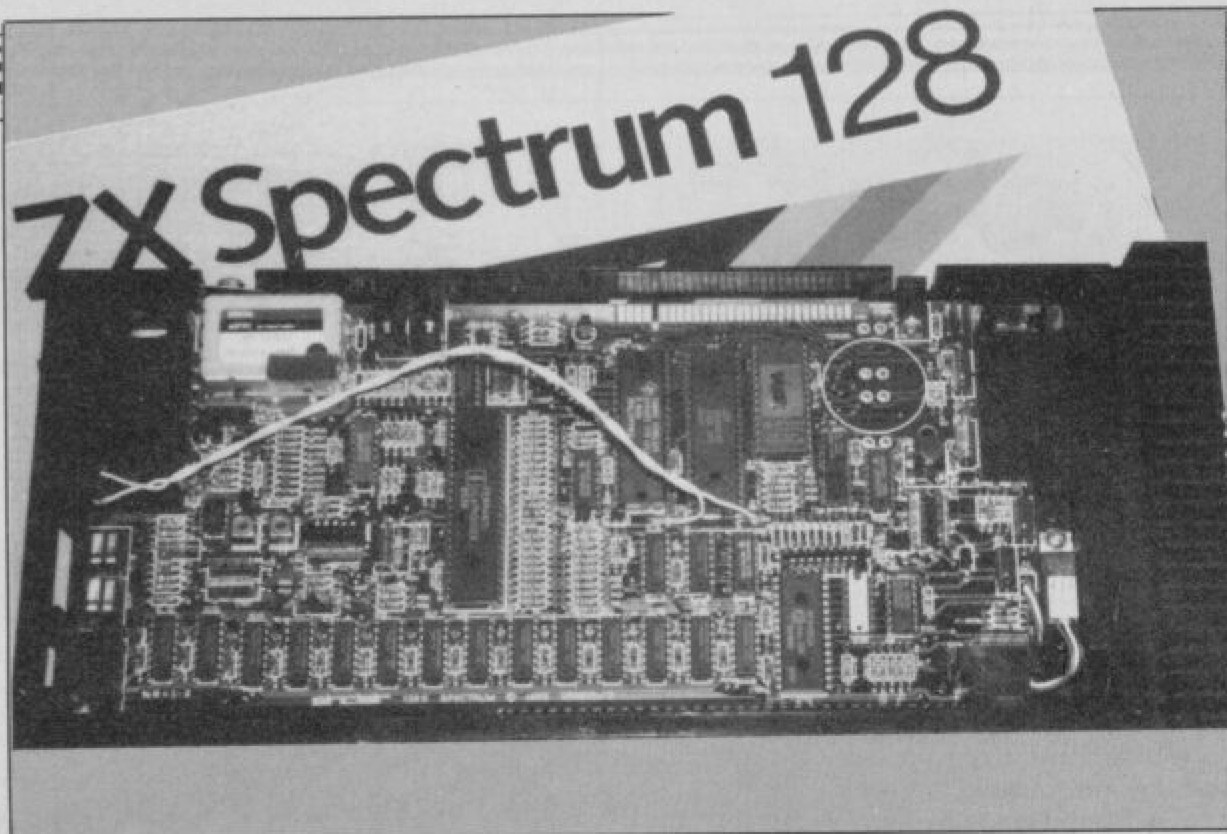
FOR 48K ZX SPECTRUM

THE OCP™ ART STUDIO

RAINBIRD SOFTWARE BRITISH TELECOM
WELLINGTON HOUSE UPPER ST MARTIN'S LANE
LONDON WC2H 9DL
TEL: 01-240-8828

MAKE CHEQUES OR P.O. PAYABLE TO RAINBIRD SOFTWARE
BARCLAYCARD AND ACCESS ORDERS TEL: 01-240-8837 (24 HOURS)

RAINBIRD is a division of British Telecommunications plc.



128K games launch

BY THE TIME you read this you will probably be able to buy a Spectrum 128K in the high street. No, they haven't been imported from Spain and you don't have to be able to read Spanish to use one.

Rumours of the imminent launch of a British 128K machine have been around since summer of last year. The sceptics were proved wrong when the machine, closely fitting the descriptions broadcast by the computer press, was launched in Spain.

Just weeks after the Spanish launch software companies were seen to be gearing up for new products which, they all said, were under wraps. The companies were under strict contract to Sinclair Research not to reveal anything about their new products. As far as the press and the public were concerned the software was meant for the Spanish market.

That would have seemed reasonable if software packages had not started to arrive with Spectrum 128K as well as 48K plastered all over them.

The company which dropped the clanger, but which is being quiet about it, is Design Design. We know of two products destined for the extra memory treatment and they are **Forbidden Planet**, at which you sit at the controls of an advanced battle tank, and **2112AD**, a kind of advanced hacking game.

A spokesman for Design Design says: "As far as I know there will be a 128K version of the programs. They are all ready to be converted but I don't think they've been converted yet."

The 128K — unlike the QL — will have a mass of software instantly available for its customers

Sinclair Research has booked advertisements in magazines which are likely to promote the 128K. We are reliably informed that there are 150 spaces within the advert, reserved for companies selling software and hardware. Those are rumoured to include Ocean, Elite — who may be adapting mega-failure **Scooby Doo** for the machine — Electric Dreams, Melbourne House, Ultimate, Hewson Consultants and CRL.

Clement Chambers, managing director of CRL, is, like others, evasive when the subject of the 128K is brought up. When asked whether his company would be producing **The Rocky Horror Show** for the 128K, he says: "If a 128K Spectrum was going to be launched we would be writing Rocky Horror for it. But, as I can't comment on the 128K, I can't make any further comments about the game."

The secrecy marks a change in the way Sinclair Research launches machines. The QL was thrown at the public in a blaze of publicity but with little software.

The 128K will have a mass of software instantly available for customers and will be able to run most of the 48K Spectrum software — 5,000 products according to Sinclair's latest adverts.

The pricing of the 128K is crucial, if the machine is to slot neatly between the Plus — now under £100 — and the QL, at £200.

If the 128K comes in at £150, then games players might consider the price too high for the rather dubious benefits of sound and extra memory, although adventures might gain, as complexity need no longer be sacrificed for pretty location graphics.

Business users and serious programmers, on the other hand, might still be tempted by the QL. Whatever the faults of that machine, it comes with the outstanding Psion software packages, worth almost £200 on their own.

Cover up

The price of *Sinclair User* is to be increased from 95p to 98p. This price rise, the first made for over a year, will start with next month's issue.

Scooby Doo doesn't

SCOOBY DOO, from Elite, billed as 'the first ever computer cartoon' is being dropped because of technical difficulties.

While the graphics in the game, which is described as an advanced cartoon adventure, are supposedly unbelievable the game is a shambles. Lack of memory has been blamed for the failure to release the game.

The program was started in June when a team of programmers and a sizeable amount of money were allocated to the product. The company says the game will appear sometime in the future as it has a three year license from the makers of the cartoon.

Elite has suggested that, because of the memory difficulties, it would be looking at 128K machines. **Scooby Doo** might be one of the first games for the Spectrum 128K.



ZX bargain short-lived?

THE SPECTRUM Plus has broken the £100 barrier!

The initiative was taken by Harrods in July who offered the basic machine without peripherals for £99.95. Asda undercut this price by £30, in early December, in a move to clear stocks. They were reluctant to comment on whether they will have more machines to offer at the same price in the new year.

WH Smith are also offering the basic machine for just short of £100 and, like Asda, also sell a package for £140.

8 ▶

Sinclair: looking good?

DESPITE a massive loss of £18.3 million during the year ending March 1985 Sinclair Research is confident that it has come through its problems relatively unscathed.

Andy Knott, a spokesman for the company, enthused: "We have started production of the Spectrum and QL again and have a full portfolio of products for next year. We have also started to make back payments to creditors in line with the timetable set up in September."

The flat screen television has had problems also. Although Dixons took some in its £10 million deal with Sinclair in 1985, the television has been packaged to make other products such as video cameras and computers more appealing.

Norman Smith, managing director of Terry Blood Distribution — the main Sinclair product distributor — says: "There was a buzz for the TV in the autumn, before Casio brought out its flat screen but, because of lack of point of sale literature and advertising, the product hasn't exactly set the world on fire. We will continue to support it while Sinclair produces it."

Sir Clive is still seeking outside financial help for planned products. He wants £10-£15 million for general research and development and £5 million specifically for his wafer scale integration project, halted because of the financial problems.

The £5 million falls short of the £50 million which Sinclair initially required. The project will be sub-contracted, instead of being handled in-house, but production will be started by Sinclair Research within three years. During that time the company will raise another £40 million which it will need for tooling up.

Andy Knott says: "The semi-conductor industry fell apart recently but in a few years confidence should be restored. We will make our move then."

Meanwhile, Sir Clive has taken a voluntary drop in salary, from £77,000 to £53,000.

'At least we have remained an independent company during our troubles, we haven't had to drop any machines'

Andy Knott comments: "The drop in salary reflected the fortunes of the company but you've got to remember that there are other benefits tied in with his job."

The reasons for the near disaster of the summer of '85, when newspaper magnate Robert Maxwell made his bid for Sinclair's sinking ship, are plain. Early in the year retailers bought too many Spectrums and QLs and did not re-order.

As a result the company was left with large quantities of stock and the only way to get rid of those was to bring the unit cost down. Effectively Sinclair wrote off his profits by £17.5 million.

An upturn in the fortunes of the flagging QL and the expected Christmas boom have got the company excited. Knott says: "It is ridiculous to suggest that the drop in the price of the QL has had no effect on sales. In the first few days after the drop there was a marked increase in the sales from Dixons. We don't have any concrete figures yet but judging by responses from retailers the indications are good."

Other manufacturers, such as Acorn and Commodore, have had problems and their debts are slightly more than Sinclair's. Knott admits that they are better able to cope with financial trouble but sticks a spike into Acorn by commenting: "At least we have remained an independent company during our troubles, we haven't had to drop any machines and we're still here."

Dreaming of the future



BACK TO THE FUTURE, the game of the blockbusting Spielberg movie, is to be released by Electric Dreams and it will be the first game to incorporate pictures from the film, which have been digitised onto the screen.

The story concerns Marty, a boy who uses a time-travelling car to go back to 1955. He meets his parents and inadvertently alters time.

The game is the first in a series from Electric Dreams of spin-offs from major film titles.

Game, set and match?

A LIGHTNING raid on a West London computer dealer has spearheaded a campaign against software pirates using laws introduced to this country last year.

The raid was carried out by Bob Hay — ex-policeman and now FAST's enforcement co-ordinator — Jack Wilkes of GOSH and four CID officers. The haul amounted to 250 games.

FAST has contacted the software houses concerned to see if the confiscated packages involve a breach of copyright.

Until recently GOSH and FAST would have had to go to the Trading Standards authority to get action but with the recent amendment of the 1956 Copyright Act software houses can prosecute pirates in the same way as record companies can.

Dr Tim Langdell, Chairman of GOSH comments: "The Amendment makes it easier for us to prosecute.

"Now, if the pirates are selling the goods we can buy a copy and inform the police who will get a warrant."

GOSH and FAST are primarily after any retail trade outlets dealing in pirated goods. He says, "We would look to the authorities, such as head teachers, to deal with school children pirating tapes.

Horror in the mask

THE PHANTOM of the Opera rises from the pits to take part in a game soon to be launched by John Ransley.

The game is a tie-in with Andrew Lloyd Webber's new stage musical, drawing its inspiration from the 1931 movie starring Lon Chaney.

Gameplay takes place against a background of famous Paris landmarks, in the city's sewers and in the Paris Opera House where the disfigured musician stalks his beautiful prey.

The atmospheric soundtrack includes themes from several well-known operas.

10 ▶

NEW FROM KONIX

12 months guarantee.

Preditor. The joystick interface with more bite.

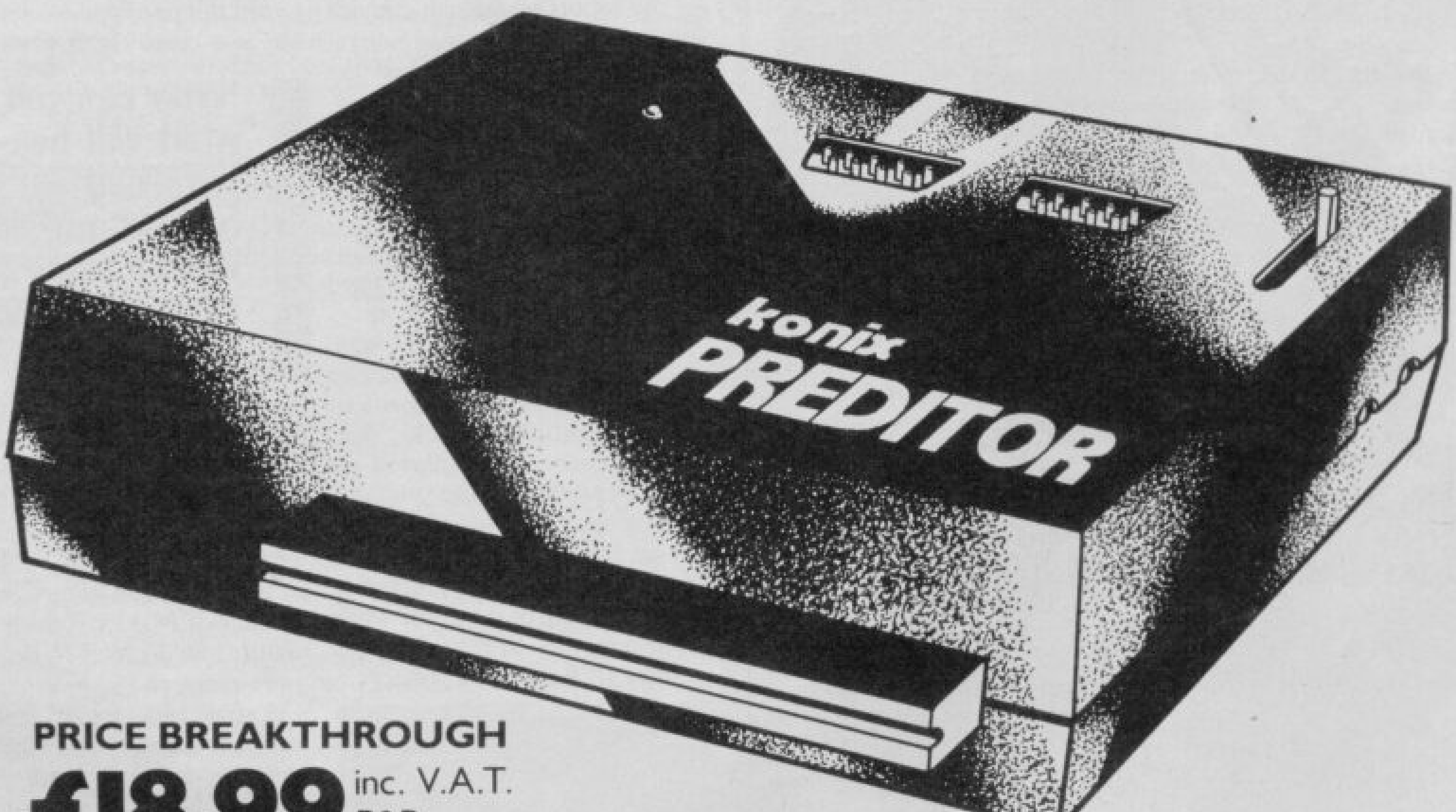
Now, the kind of **quality** you've been looking for in a Joystick Interface, with two big plus's.

- Full **Filtered** Sound through your television.
- Video Monitor Port (composite colour).

FOR UNDER £20

The Preditor has all Joystick Protocols ie: Kempston, Protek and Sinclair left and right.

So any game can be played with this interface. The Preditor is manufactured in the U.K. and built to last.



PRICE BREAKTHROUGH

£18.99 inc. V.A.T. P&P.

For the Sinclair Spectrum 48K and Spectrum Plus.

Please send me ______ Preditors at £18.99 each
Computer make ______
I enclose Cheque/Postal order for £ ______
Made payable to KONIX.
Please charge my Access/Visa ______
Cardholders can call on (049525) 5913 to order
Signature ______
Name ______
Address ______
______ Postcode ______ Tel ______
Konix Computer Products, Unit 13, Sirhowy Industrial Estate, Tredegar, Gwent NP2 4QZ.

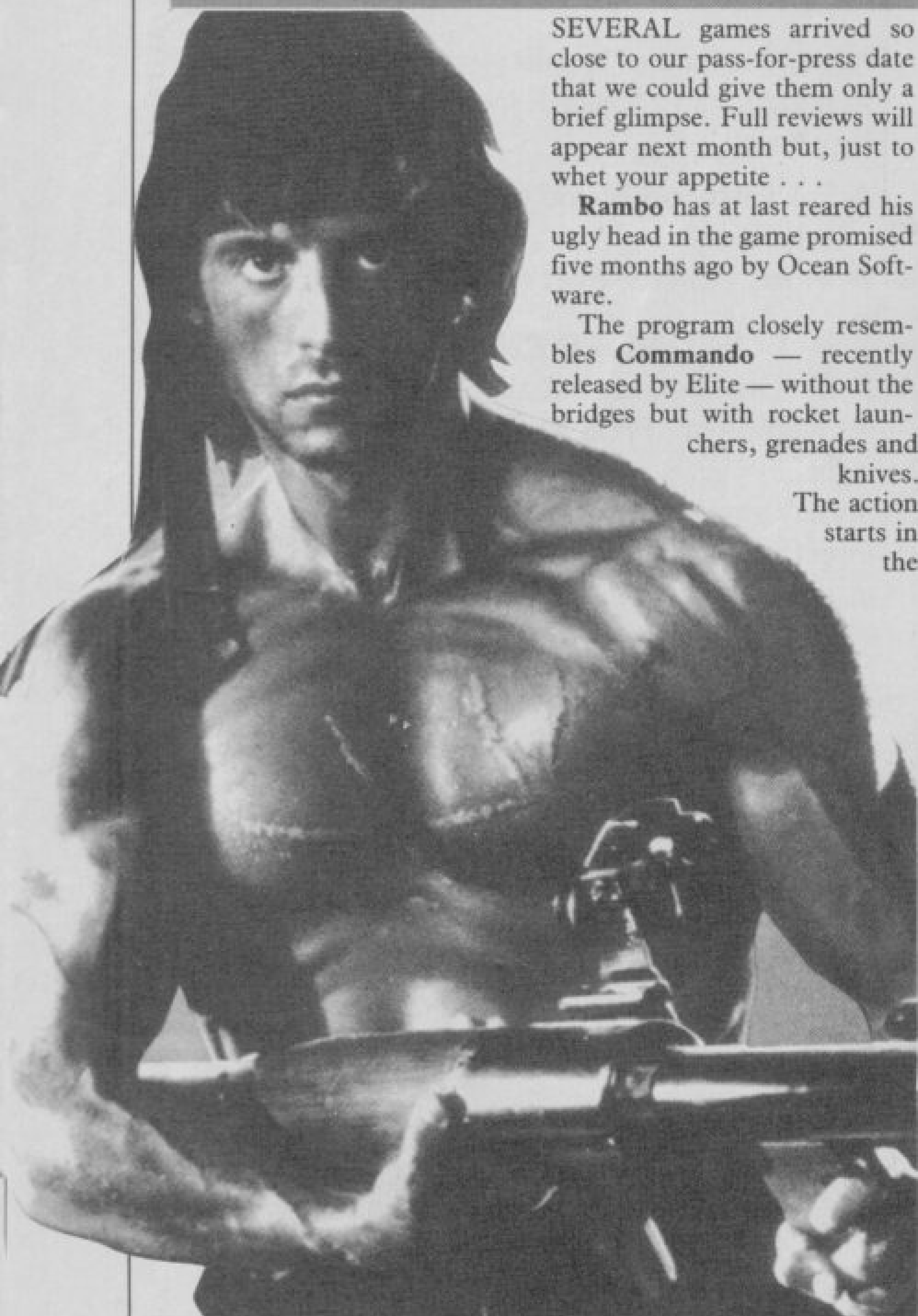
konix PREDITOR

Trade or expert enquiries contact either Keith or Wayne on **(049525) 5913**

Konix Computer Products is a trading name of Creative Devices Research Limited.

PREDITOR · PREDITOR · PREDITOR · PREDITOR · PREDITOR · PREDITOR · PREDITOR · PREDITOR · PREDITOR · PREDITOR

Hot off the press



SEVERAL games arrived so close to our pass-for-press date that we could give them only a brief glimpse. Full reviews will appear next month but, just to whet your appetite . . .

Rambo has at last reared his ugly head in the game promised five months ago by Ocean Software.

The program closely resembles **Commando** — recently released by Elite — without the bridges but with rocket launchers, grenades and knives. The action starts in the jungle where **Rambo**, complete with rocket launcher, is out to free his friends from a POW camp. The graphics are more detailed than **Commando** and relatively flicker free.

You score points by killing anything in sight which moves but moving the Rambo figure around to line the enemy up in his sights proves difficult.

The game includes approximately one million square feet of jungle — to scale of course — and features a POW camp, a temple and hilly terrain covered in trees and beset with bogs.

Tranformers, also from Ocean, is not quite as late as **Rambo**, but late enough, and should provide action for fans of the robots which can convert into cars and planes.

You can become one of the five transformer robots by using a cross-hair cursor.

The Decepticons take on a variety of guises including warcats, falcons and warplanes. They will quickly reduce your shield power and you will need to be quick to destroy them.

Gunfright is the latest megagraphics game from Ultimate in which you play a sheriff intent on eradicating Buffalo Bill. The scenery is displayed in **Knightlore**-style 3D.

You need bullets and a horse, all of which can be bought. Your money is accumulated at the beginning of the game when you have to fire at bags of money in a shooting gallery.

Cheap games out?

A DECISION by Gallup to separate budget games from mainline software in the Top 30 charts has been put off until the end of this month.

Gallup, after a meeting with representatives of the industry including GOSH and GSD, had decided to split the charts because of a bias towards the sales of budget games. The argument is that more budget-priced units are sold than mainstream games.

Mastertronic, a budget software house, put in a powerful counter argument. A spokesman for the company says: "The market is still in a state of flux and the boundaries between the two types of software are not clear. In a few year's time, who can tell what will be regarded as budget and what will be regarded as proper-priced software?"

'Who can tell what will be regarded as budget and what will be regarded as proper price software?'

The Gallup advisory committee had set a boundary of below £5.00 for budget games but, as a result of Mastertronic's complaint, has decided to do some more research.

A spokesman for the research company says: "Of course we want to do what most of the industry wants. If the advisory committee had set the price at £5.00 and nobody had complained we would have gone ahead with plans to separate the chart, giving budget software a section of its own. Now we will be looking for public reaction and seeing what other software houses want us to do."

The decision to change — or not change — the charts will be taken at the end of January, so now's your chance to voice your agreement or opposition. Just write to Gallup, 202 Finchley Road, London, NW3 6BL. As the spokesman says: "It's not what we want, so much as what the kids who buy games want."

Winner's magic night out



AMATEUR conjuror Roger Adlard, right, learns the art of stage presence from master magician and TV personality John Salisse.

Roger was first prize winner in our November **Magic** competition, sponsored by publishers Macmillan, and his stint on stage was only part of an evening of illusion at the world famous Magic Circle Club.

SPECTRUM TAPE and DRIVE TRANSFER UTILITIES

ALL SPECTRUM owners need TC7 — our Specialist tape utility. Send SAE for FULL DETAILS of this amazing and widely used program.

- ★ Integral header reader.
- ★ Includes BAUD RATE (speed) measurer.
- ★ Can save high speed/jerky parts in "normal" form for DRIVE TRANSFER.
- ★ So many extra features we can't possibly list them here. Just try it and see. As the market leader we can't afford to let you down.

COST only £6.50 (or £9.99 on cartridge with MT6 a special m/drive program — £7.50 with MT6 on tape)

NEW TAPE TO DRIVE TRANSFER OF RECENT PROGRAMS

Yes SPECTRUM OWNERS now have a **LOW COST** way of transferring many of even the **LATEST** high speed/jerky programs to their drives. You will be amazed! Other methods are expensive or very limited.
Firstly you will need our MD1b (for m/drive) or WD1b (for Wafa or disc drive). They give you the tools to convert programs so that they will run on your drive. Includes ability to cope with very long programs, can split/chop bytes in one go, "VAL" creator, REMkill, make visible etc, etc. **FULL** manual (highly rated by CRASH) with example transfers (also need TC7 for latest programs). **MD1b or WD1b cost £6.99.** "Manages more programs" — Your Spectrum (TC7 also needed for latest programs).

NEW LERM INFORMATION SHEETS

Each sheet gives you the DETAILED instructions required to transfer 8 of the more POPULAR programs to drive using our software. They cost **£1 each plus SAE**. Up to sheet 5 available.

TRANSFER PACK — TC7+MT6+MD1b on CARTRIDGE+ information sheets 1-3 all for £15.50 (other drive owners get programs on tape+sheets for same price with WD1b replacing MD1b).

UPDATE SERVICE: for latest version on your LERM product send old tape+large SAE to get a £2 REDUCTION. *OVERSEAS:* add £1 Europe, £2 others for each product. *SAE for enquiries.*

ALL OUR PROGRAMS CARRY OUR MONEY BACK GUARANTEE (not updates)

LERM, DEPT SU, 10 BRUNSWICK GDNS, CORBY, NORTHANTS NN18 9ER

DIGITAL PRECISION

TOP QUALITY SOFTWARE FOR THE QL

(All Digital Precision QL Software is compatible with disc and memory systems)

SUPERCHARGE (Full Superbasic Compiler)
A full BASIC compiler for the QL – need we say more? Supplied with a 100+ page manual £59.95

SUPERFORTH AND REVERSI V1.4 combined
A full FORTH 83 system with a 100 page manual £29.95

REVERSI V1.4
The strongest REVERSI program for any micro – beats the Sinclair Othello program every time £12.95

SUPER ASTROLOGER V1.6
Gives a very detailed 4×A4 page horoscope/character readout automatically, allows comparisons/compatability testing. No prior knowledge needed. Now in Machine code £24.95

SUPER SPRITE GENERATOR VERSION 3.5
The ultimate games designer – can be run from BASIC or machine code £24.95

SUPER ARCADIA
Machine code double bill. BMX BURNER (an improvement on Jetpac) and GRID RACER £15.95

SUPER MONITOR/DISASSEMBLER
Version 3.0 – 100% machine code – does everything you could want it to! £18.95

SUPER BACKGAMMON
Version 2.0 now follows ALL the rules of Backgammon and is in Machine Code £12.95

★ £5 off SUPERFORTH and SPRITE GENERATOR & £2 off SUPER MONITOR if ordered together with SUPERCHARGE ★ £1 off if you buy 2 programs, £2 if you buy 3 etc ★ For upgrades on earlier versions of our programs, send £5 + original cartridge. For **Super charge** owners with Versions earlier than 1.2 the upgrade costs £10 and is strongly recommended ★ UK deliveries Post free ★ Europe add £1 program (£2.50 for SUPERCHARGE) p&p ★ Other countries add £1.50/program (£4 for SUPERCHARGE p&p).

You can ☎ in orders on 01-527 5493

TO: Digital Precision Limited, 222 The Avenue, London E4 9SE

Please send me: ....

Enclosed is £ ....

Cheque no. expiry date. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Name ....

Address ....

.... SU

ELITE

This boy is a fugitive.



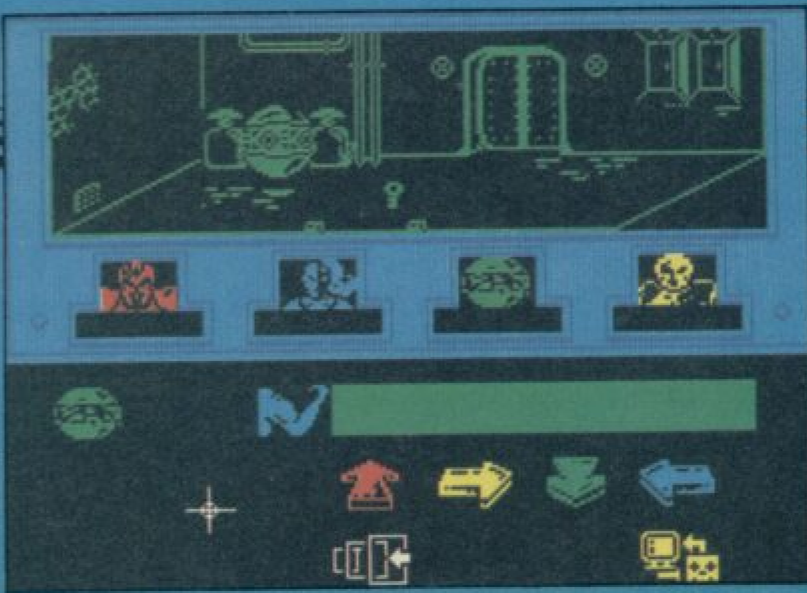
FIREBIRD

ELITE

This girl is dangerous.



FIREBIRD



Enigma Force

I AM ZOFF, Lord Dictator of the cosmos, natural superior to any creature within my awesome domain.

They tried to defeat me, pen me up before I could become all-powerful. I admit my inadequacies but even the Enigma Force, who tracked me down in their spacecraft, could not hold me for long.

It was I who, using my psionic abilities, destroyed the reasoning faculties of the Enigma craft's guidance system. The ship began to malfunction but they could do nothing, tucked up in their cryogenic chambers, sleeping.

I thought then, as the escape pod took me towards the Insectoid planet, that they might not get out of the tangled wreck alive. Such hopes were dashed — they crashed into the underground Insectoid complex. And now they are hunting me like some wild animal.

Team leader Zark Montor is a veteran fighter with battle injuries which have left him with a cybernetic arm. I do not underestimate him. His worth was shown in Mission Shadowfire.

Syylk, who's homeworld this is, has a pathological hatred of me. No doubt it was built into him by his insectoid brothers. They too will pay the penalty — my reptiloid allies are at this moment wiping them out.

Sevrina Maris, called Mistress of Mayhem, is the woman in the group. Among her many talents are a love of guns and an agility with locks. A most interesting adversary.

Maul is a combat droid which carries a devastating array of armaments. Those it lets off at the slightest provocation.

Their aim was to capture me and take me to their emperor. They succeeded in their first task but I foiled the second. Now they are out for vengeance. It is my death they desire.

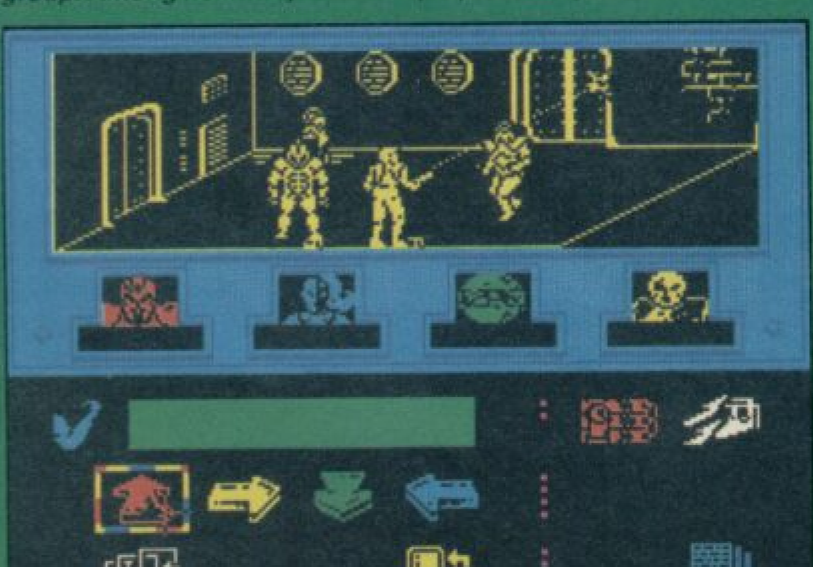
Little do they know that the republic has sent destructor tugs to wipe out this planet if I am not captured . . .

General Zoff is on his way through the maze of corridors to find the only ship on the base — a reptiloid craft in a reptiloid area. Your task, controlling the four members of the Enigma team, is to find Zoff and kill him. In order to do that you must find the insectoid leader and befriend him. If you do not, the insectoid forces will remain hostile to you.

The instruction booklet may not be much help in finding your way through the mazelike corridors and rooms, but at least it shows all the controls clearly. The **Shadowfire** booklet was gibberish but the authors seem to have learned from their mistakes.

It provides a mission briefing, followed by an introduction to the icons which are easier to understand than those in **Shadowfire.**

The game is also easier to play and the plot is simpler.



Just go through all the corridors, mapping as you travel, kill all reptiloid patrols, make an ally of the insectoids and find Zoff's ship. You have to get off the planet before it is destroyed.

The play screen is split horizontally into three. The top section shows a 3D representation of the underground room or corridor you are in, and the characters who are there. The middle section displays each character's identity icon. There is a small window below each of these which shows the commands you are giving the characters, and special objects when they are picked up.

As with **Shadowfire** you can take on the role of any one of the four main characters. Position the cross-hair cursor over the character icon — which should start flashing — and press ENTER. At that point the screen will change colour to match the colour of the icon you've just selected. That way you know who you are moving.

The bottom section of the screen is the most important. It scrolls across the screen as you move the cursor, uncovering a large variety of icons which are used to manipulate characters.

The character status display is much simpler than that in **Shadowfire.** It contains just a bar chart showing strength — a rating which changes depending upon the character you select.

When you have selected a character you can move using the large arrow icons. Sometimes the characters will not move out of a room, presumably because the programmers wanted to show that the characters have intelligence. That intelligence is best seen when the Enigma characters have run out of ammunition and run into a reptiloid patrol. On such an occasion you will probably find that the team scatters screaming 'Okay, tactical retreat', 'No ammunition', or 'Help, enemy on all sides'. That's no way for a hero to behave.

None of the characters has ammunition when the game starts but scattered on the floor of the crash site are cases of ammo. It is common-sense to make each character pick up one case — there are three cases and a red herring — about which more later.

When you've picked up your ammo you should not all move off as a group. You can afford to split up in pairs. The advance party should include Syylk, although the reason is a secret which, Beyond says, you will have to fathom for yourself — just remember that familiarity does not always breed contempt.

Although **Enigma Force** depends more upon action, movement and mapping, than strategy or adventuring, you will need to pick up objects other than ammo. For instance, there are keys, explosives and that mysterious red herring.

The programmers have used the same **Shadowfire** object manipulation icons for **Enigma Force.** Pick-up is shown as a hand carrying a case and drop is a hand releasing a case. Activate, a finger on a button, will allow you to prime



weapons or use objects such as toolkits and Load Weapon, a gun with powerpack, will make your weapons ready to fire.

Of the objects I picked up I could only activate a key for an electronic lock, explosives and a red herring (Just what is this red herring? Ed). Do you really want to know? (Yes. Ed). Okay, you must experiment. Give the object to each of the team members in turn and activate it. When you hit the correct character the red herring will turn into something a lot more useful and a lot less fishy.

Explosives are fun to use but deadly if triggered in the wrong way. At one point, during a fight with reptiloid guards, I decided to let off a charge. I primed the explosive and then quickly left the room. There was a big bang and I found the character — Sevrina in this case — saying, Goodbye, cruel world. I had forgotten to let go of the charge.

Reptiloids can be just as stupid where explosives are concerned. Although they will retreat if they run out of ammo they don't appear to run for cover when a primed bomb is placed in full view.

In some instances your characters may not obey your commands and you will have to use the dreaded mind probe. It is a device which will chain the mind of its victim so that you can move him or her manually, by joystick or cursor, and fire without question.

The use of the mind probe can greatly enhance your chances of winning battles. If you use it on a character who is cornered by the enemy you can fire at will or make a run for it. The main characters are unlikely to run during a fight without the mind probe, even if you tell them to move themselves.

Moving a character around under mind probe control can be a boon at the beginning of the game. Although **Enigma Force** contains fewer rooms and corridors than **Shadowfire**, a map is vital because no floorplan is shown in the game.

Map-making is quicker if you use one of the characters, such as Syylk, to rush around the rooms, avoiding patrols and finding locked doors. Unfortunately, you cannot pick up objects when using the probe but, as all objects have a definite starting position, you can just log them and retrieve them later.

During the game Zoff may appear almost unnoticed, in the thick of the fighting. Here is your chance to kill him. He wears a purple coloured suit but — on the Spectrum version of the game — he is fairly difficult to recognise unless you are looking intently at your scanners.

You may feel slightly disappointed when you first see the 3D graphics in **Enigma Force**. They are not as colourful as the Commodore 64 version but the action, particularly in the many fight sequences is more realistic. The authors have gone for realism of movement rather than colour clash.

The sound, which unfortunately is only sustained at the beginning of the game, is also excellent. That gives the finishing touch to what is an excellent game — certainly easier to play and more immediately attractive than **Shadowfire**. I am quite enamoured with Maul, the manic droid, and love the way he spins on his axis during the game . . .

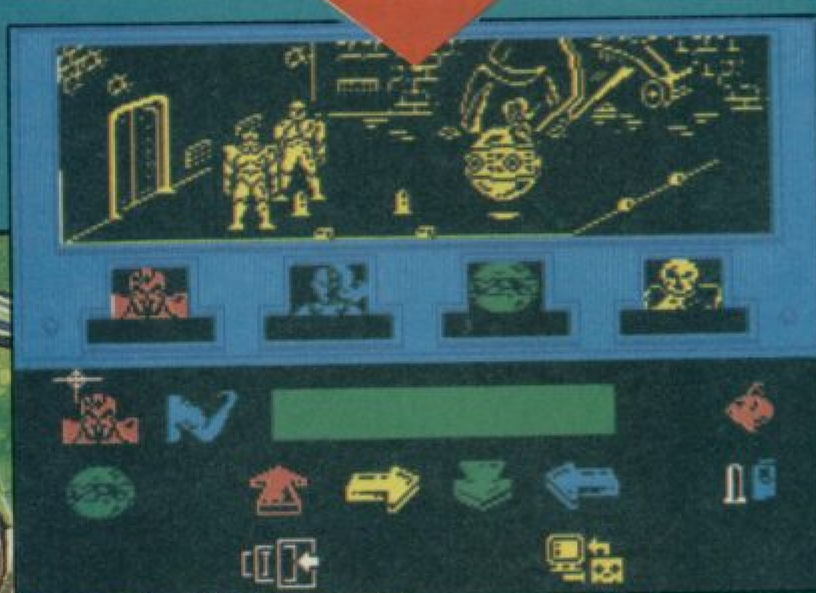
. . . Not for long. I, Zoff, will put a spoke in his central drive.

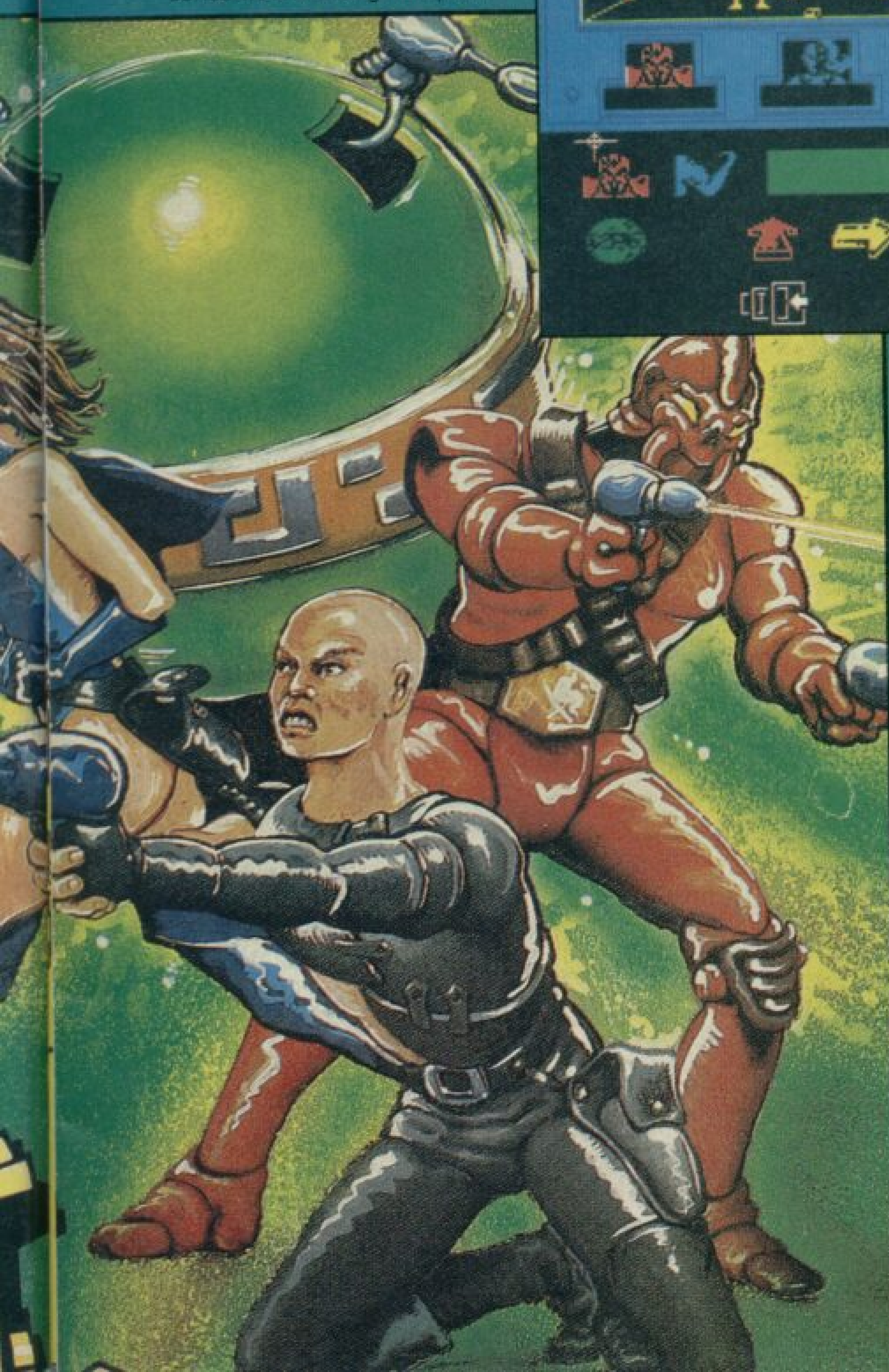
So you still haven't caught me. At last I have passed the final sliding door and found the reptiloid ship which will get me off this planet. That's handy . . .

Excuse me while I sniff into my prototronic hankie. I'm getting tired waiting here. I'm going to have a sprint down the corridor. Perhaps we'll meet around the next bend.

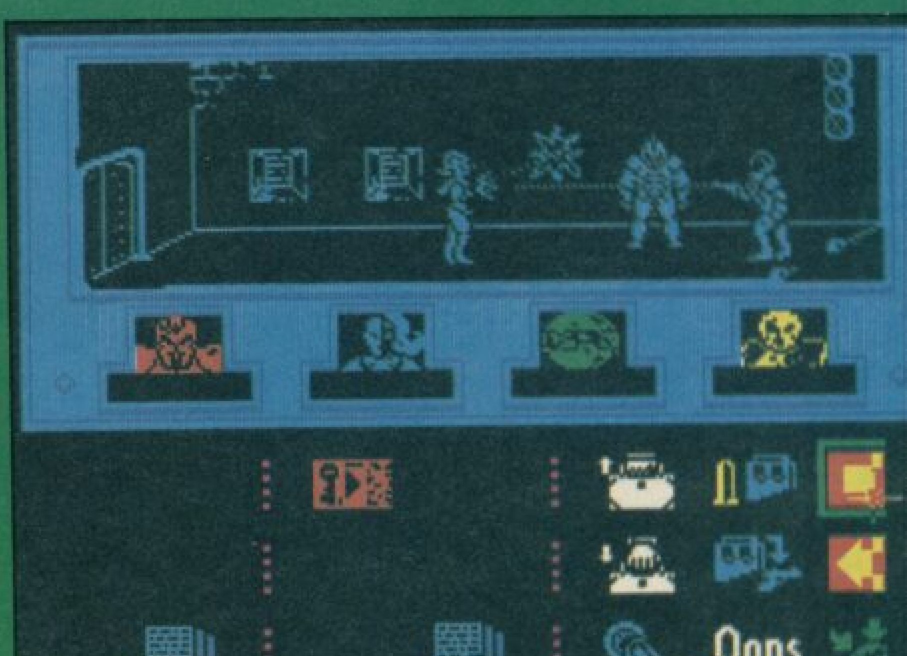
General Zoff/John Gilbert

SINCLAIR USER CLASSIC





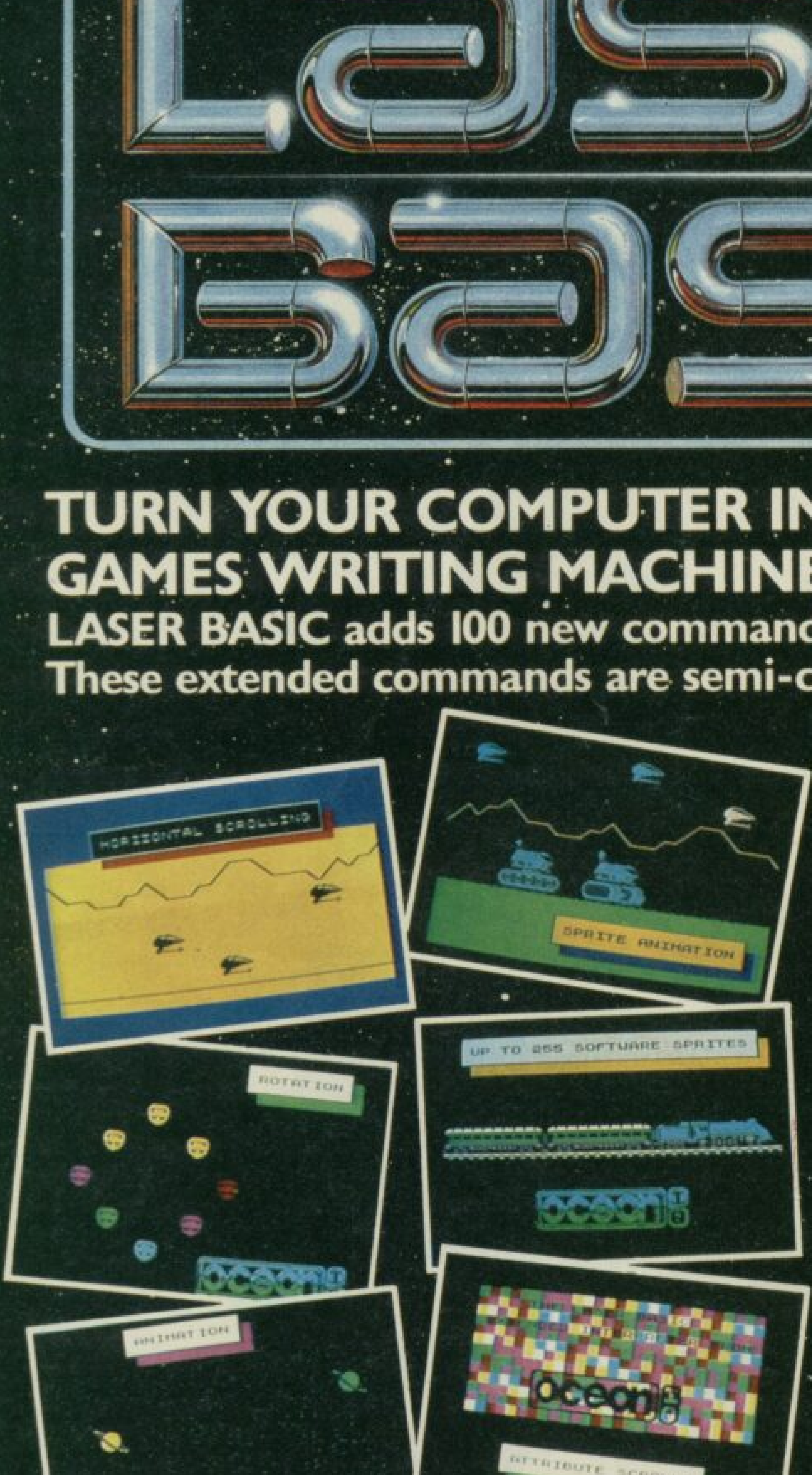
Publisher Beyond Software
Programmers Denton Designs
Price £9.95
Memory 48K
Joystick Kempston, Protek, Sinclair, Fuller
★★★★★



LASER BASIC

TURN YOUR COMPUTER INTO A PROFESSIONAL GAMES WRITING MACHINE FOR FUN AND PROFIT!

LASER BASIC adds 100 new commands to Sinclair Basic. These extended commands are semi-compiling so graphic animation is extremely fast. LASER BASIC includes, extended interpreter, sprite/graphic designer, fully documented program and 2 sets of pre-defined sprites.



- Up to 255 software sprites can be defined, each with its own user selectable dimensions (up to 7 screens wide!)
- Operations can be carried out, on or between screen windows, sprites and sprite windows.
- Sprites can be block 'PUT' or can use one of three logical operations – AND, OR and XOR.
- Sprites and screen windows can be pixel scrolled in any direction, mirrored, enlarged, spun, inverted or cleared.
- Procedures with local variables and parameter passing.
- TRON and TROF (trace facility).
- 16 bit PEEK and POKE.
- RENUMBER and REM renumber.
- Non destructive MOVE with 2 frame animation.
- Collision detection and pattern recognition facilities.

OUT NOW FOR THE SPECTRUM 48K/ SPECTRUM+ ON CASSETTE

£14.95

Microdrive compatible.

ALSO AVAILABLE NOW!



- Using the Laser Compiler your program runs even faster and can be produced to stand alone.
- Programs can be marketed with no royalities to pay (once you have bought a compiler your work is your own.)

Spectrum 48K/ Spectrum+ **£9.95** on cassette. Microdrive compatible

A new age dawns! The arrival of LASER BASIC: first in a powerful range of development tools for fast programming brought to you with the combined skill and resources of Ocean and Oasis – (producers of "White Lightning")

Other, easy to use products in this expanding range will include screen artist/designers, music composers and machine code emulators to make your programming more rewarding and exciting

☐ Laser Basic Tape £14.95 ☐ Laser Compiler Tape £9.95

I enclose a cheque/PO for £______

Name ______

Address ______

______ P'code ______

Send to: Specialist Distribution Ltd. Ocean House, 6 Central Street, Manchester M2 5NS Tel: 061-835 1353 S

ocean IQ INTERACTIVE SOFTWARE

Ocean IQ Software is available from selected branches of: Boots, WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Greens, Spectrum Shops and all good software dealers. Trade enquiries welcome.

Love is never having to say . . .

LAST YEAR'S Xmas jollities featured many strange happenings, but none stranger than editor **Bill Scolding's** verbal duffing up by two software heavies in *Sinclair User's* local watering hole.

The software house, which shall remain humourless, had taken umbrage at some recent Gremlin remarks which were, of course, all in the best possible taste. Seven plagues of solicitors were threatened unless apologies were immediately forthcoming.

Old incorruptible Scolding, drawing himself to his full height, and backed with all the weight of the freedom of the press, promptly grovelled and all was sweetness and light under the misletoe once more.

"Your days are numbered, Gremlin!" growled Bill on his return. "Just watch it . . ." Point taken.

The Bounty bar *was* stale, by the way, Mike . . .

Sick Brides

Other jollities included the **Grand EMAP Thrash**, to which every Tom, Dick, Kevin and Bruce were invited. Those wonderful ladies from **St Bride's**, alas, never made it. **Marianne Scarlett** and **Priscilla Langridge** flew in one of those new-fangled aircraft thingies, which circled Heathrow for so long that Priscilla developed a crippling headache. "She was prostrate on the floor," explains Marianne.

Gremlin nevertheless managed to spend a fortifying lunch with the Games Mistresses the next day, where various alleged hangover cures were consumed with gusto. According to those formidable women, it's quite normal in Ireland to go 'on the beer'. Indeed, Gremlin understands it's a perfectly acceptable excuse for not turning up for work.

Our publishers, unfortunately, appear to have little or no interest in Irish folklore . . .

Thumbs down

Mike Meek of **Mikro-Gen** has reason to be happy, with **Sir Fred, Three Weeks in Paradise** and **Battle of the Planets** all set to do well — though apparently poor sales of **Unicorn** caused at least one chain store to think twice about the latest from the House of Wally.

Meek is also inordinately pleased over the launch of **Gladiator** by **Domark**. It seems that programmer **Mike Green** first approached the Wallies with the game, but after some months Mikro-Gen kicked it into touch. "It's completely unplayable," chuckles Meek. "What you're looking at in **Gladiator** is a Mikro-Gen reject."

Well, Domark should be so lucky. Youthful **Mark Strachan** chirrups "It's the best thing we've released — far and away the best fighting simulation on the market." Is there any more old tape lying around on Mikro-Gen's cutting room floor? ponders Gremlin . . .

Humbug

Domark has been going over the top in other ways during the festive season. Those unfortunate enough to be on speaking terms with **Dominic, Mark**, and ex-hack **Dave Carlos**, received the tasteful Chrissie card pictured below. Just consider yourselves lucky it's reproduced in black and white . . .

Mark, however, has been having second thoughts about it. "Last night I saw *Santa Clause — The Movie*, and wept all the way through it." Hah! grunts Gremlin, so it really is as bad as the critics make out. "It's sweet, it's lovely," burbles Mark, "and it made me realise I was really a bit naughty to do Santa Claus with a chain saw and axe."

Sanity clause, there ain't no sanity clause, Gremlin mutters . . .

Happy bloody Christmas from Domark.



Kissing Cousens

Brazen Backslapper of the Month Award goes to **Rod Cousens** and **Electric Dreams** for outrageous claims about **Back to the Future**.

Sylph-like Rodders says it's the first time there's been an on-screen kiss in a computer game. Anyone who's tried it on with Maid Marian in **Robin of Sherlock** will disagree about that, but even if you discount adventure games it's still not true. Gremlin distinctly recalls some rather yukky goings-on between the **Fighting Warrior** and the mummified princess on the final screen.

A grubby fiver is on offer to the reader who can produce the earliest computer animated lip-smacker. C'mon guys, where's your sense of romance? . . .

Labour pains

Gremlin was more than a little disappointed to see Ocean's **Rambo** arriving only days before the magazine went to bed. Disappointed because he was intending to present a new award — the **Rambo** — given only to games of such quality that they were beyond praise. Indeed, games which are beyond criticism of any kind because nobody's ever seen them . . . except in advertisements.

In the light of **Elite's** announcement about abandoning its revolutionary cartoon game, perhaps the award might be more usefully named the **Scooby**. So, here goes . . .



Scooby award winner.

The Scooby Prize for announcing and advertising games 27 years before they actually appear goes to . . . Well, there are so many, aren't there? In 1985 we waited for **Knight Rider, Rambo** of course, **Neverending Story** — that was a good four or five months in the telling — but there can only be one winner.

The coveted Scooby goes to **Street Hawk**, first advertised in this magazine in May. Accepting the award on behalf of Ocean magnate **David Ward, Jennie Beattie** has these words to say: "Don't talk to me about **Street Hawk**! Ocean is conscious of the problem . . . It's very embarrassing."

Other awards are as follows: Best supporting Scooby — **Daley Thompson's Supertest.** Best foreign Scooby — **International Karate.** Best Scooby — **Frankie Goes to Hollywood.** Nominations were also received for **Mugsy's Revenge, Dr Who, Asterix** . . .

Look out for the birthday celebrations for **Street Hawk**. See you there, says Gremlin . . .

Going broke in Classic style

HOW MANY of your readers have £48.48 to spend each month? Because that is how much, on average, it would cost to purchase each tape to which your reviewers give five stars each month.

If one exercised a little more self control and bought only games awarded Classic status, it would 'only' cost £22.77 a month, on average. So why do you not limit the use of Classics to maybe one arcade game and one adventure each month or, failing that, introduce a 'game of the month' which would be awarded to one game which all the reviewers agreed to be truly worthy of the title?

James Tovey,
Kidderminster,
Worcestershire

● *I think this is a bit silly. No-one is saying that you should buy everything which is awarded five stars or a Classic, any more than you should see all films which receive Oscars. In January's issue, the* **Spectrum Forth Converter** *was awarded a Classic, but I doubt whether many arcade fanatics bought it. Such ratings are only a guide to purchase. We leave it up to you to decide to buy it or not.*

SINCLAIR USER CLASSIC

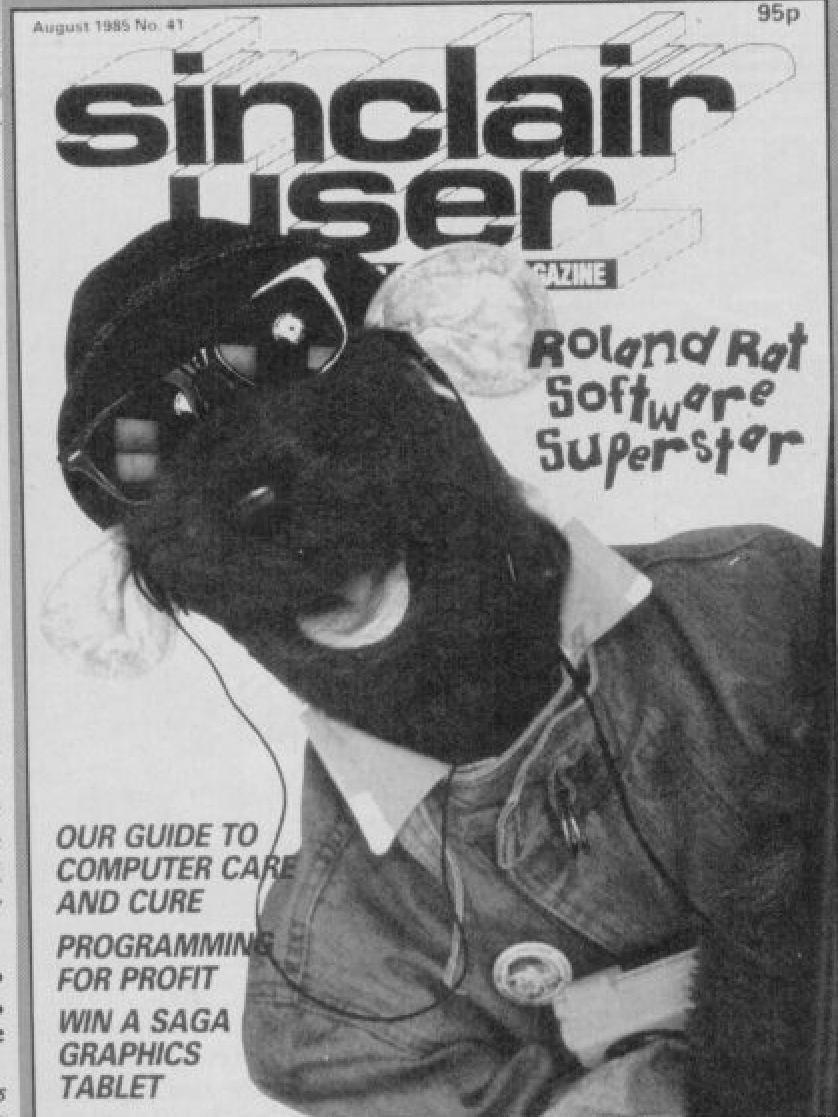
We're getting there

I THINK all of your reviewers are very accurate in their judgement of games. I have recently bought four of your Classics and three of your five star reviewed games and all of them have been great.

Richard Milligan,
Belfast,
N. Ireland

PS. Gremlin's Xmas Bash poster is brilliant and it will not be removed from my wall until he gives us a newer one.

PPS. Please could you print the Top 30 of one of your reviewers as I would value his or her opinion.



Mag is strictly for the kids?

I BELIEVE that my subscription expires this month. I have taken the magazine for about three years but I wish to give it up.

I'm afraid that *Sinclair User* has degenerated in many ways — for example, editorial remarks to letter writers seem often childish in the extreme. I appreciate that the magazine is aimed mainly at the younger generation but I think an approach at about the 12-year-old level is a little too low.

Most of your output seems to be devoted to games and very little to encourage youngsters on the real use of the computer. Some of my young friends have commented to me on this.

Some articles on machine code have been good but most of what you produce, I think you must have to agree, is devoted to games, mainly arcade type. I appreciate that most new owners just play games. I would have hoped, though, that your magazine would try to educate a little.

Sorry, I cannot be more constructive but with a computer in every school, I believe, I should have thought that there was scope for more real computing than your magazine offers.

I know you can't please everybody as I am one of the 'older' generation, but I am so sorry to see so many kids just waste hours on trivial games and having their parents ask me what they should do. I'm not an expert, I can't teach them.

David Williams,
MSc, PhD, CBiol, FIBiol,
Edinburgh

● *We can't please everybody, though we do try to cover all aspects of Sinclair computers. Games coverage has increased recently, partly because there are more games players out there, and partly because business and education software has diminished — we can only review what we receive.*

Nevertheless, we continue to offer programming help with Andrew Hewson's regular column, and this issue sees an expanded hardware section. Neither have we forgotten the QL — even if everyone else has.

As for educating readers on the 'real use of the computer', is a magazine the best place for this when, as you point out, there is at least one computer in every school?

Three cheers for Transform

I OWN a Spectrum Plus with Interface 1, microdrive, and a Brother M1009 printer.

I recently decided to buy a ZX Lprint III printer interface and sent off a cheque and coupon to Transform Ltd. I settled down to wait the usual 28-day mail order period and was pleasantly surprised to find the item delivered four days later.

What about the interface? It's up and running, and simplicity to use. I had a slight problem altering the control codes in **Tasword 2**, but a quick phone call to Transform supplied the answer. The results are excellent. Response to customers is what successful marketing is all about. Well done Transform.

A quick plug here for the Spectrum Plus keyboard. I have read some reviews which are critical of the keyboard when comparing it to more expensive professional keyboards. I have been touch-typing for many years, so it is hardly surprising that **Tasword 2** is my most frequently-used program. The Plus upgrade kit is superb value for money and is all I need for accurate typing.

As the tenuous 128K is reputed to fit inside the Plus keyboard, I look forward to the day of the 128K upgrade kit. That must be a viable proposition.

Jack Bradshaw,
Yeovil, Somerset

A question of wizardry?

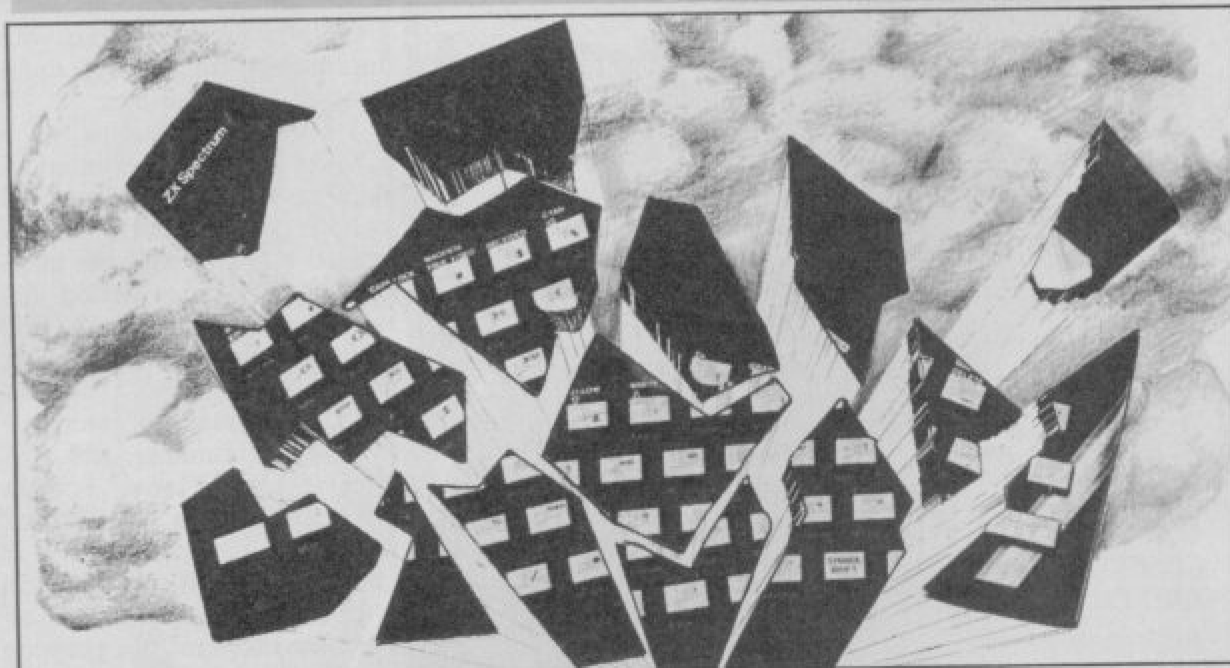
EXCUSE my curiosity, but I would like to ask those wizards of computerland just how they manage to come up with those infamous codes which endow you with such powers as infinite lives. Is it simply a question of POKEing around in the right places, or is there more programming knowledge to it?

I would like to hear from anyone — but especially potential pen-friends — who wishes to give his or her response to this question.

Ray Spiteri,
Dun Luga Str.
Sannat — Gozo,
Malta

18

Blast gets the thumbs down



LIKE your correspondent, Patrick Norris — December SU — I too was incensed by Marcus Jeffery's review of **Blast.**

I ordered a copy of **Blast** as soon as it was advertised and found that the first program would not compile anything. An up-dated version received shortly afterwards wouldn't either, so I sent OCS a program which they compiled with version 2.0.

It is true that I can compile with this program, but my running times are only seconds quicker than Basic. Whatever happened to their claim for a 40 × increase in speed, which I note has been dropped from their advert these days?

As one of the earlier purchasers of **Blast**, OCS invited my comments. Against my better judgement I tried to make them constructive and wrote that I hoped they would reprint the manual, forwarding copies to existing users. OCS confirmed that the manual would be revised and reprinted. To date, I have not received my up-dated copy.

Marcus Jeffery's reply to Patrick Norris states that customers would receive up-dates as they became available. That is certainly not true in my case. I have heard nothing from OCS for nearly six months.

J P Heritage,
Ashford,
Kent

Spectrum dunce

I'M SO GLAD you printed the letter from Patrick Norris concerning the **Blast** compiler. I have had similar trouble, and was beginning to think I must be the Spectrum Dunce.

Three versions of the program have been returned to OCS as unworkable, the last one in July. Since then I have heard nothing, in spite of a letter asking for my money back.

The advertising gives the impression that **Blast** will compile any program in seconds. In fact, for anything over 3K — which they call a 'large' program — the tape-to-tape method is necessary and takes at least half an hour of tedious and laborious tape changing — and then it doesn't work.

Only when you have bought **Blast** can you read in the instructions that for 'large' programs you really need a microdrive. I have no intention of buying one in order to use this already expensive program.

As a serious user I am very disappointed with **Blast** — and £25 poorer.

N G Strong,
Epsom

● *Once more we approached OCS with your complaints, and they apologised about the poor treatment which some customers have received, though saying that these were exceptional cases. Recent versions of* **Blast** *do not, apparently, contain the bugs of earlier copies, and the manual has just been reprinted. We would like to hear from readers who have been satisfied with* **Blast,** *so that we can present the other side of the issue.*

Compiler does the biz

WITH REGARD TO the controversy over the merits of the various new Spectrum compilers to hit the market, I would like to add my contribution as one who has been using a Softek floating point compiler for some time.

There are three vital points:

1. A compiler should do everything its publisher claims it will do. My Softek compiler has never failed to compile my programs.

2. If you are serious enough to want to use a compiler then you will want a floating point compiler.

3. I cannot see how you can give any credit to compilers with a success rate of less than 100 per cent. If the Softek compiler is representative of all their software then heaven help the rest of the graphic design packages now that **The Artist** is on the market.

In short — **Blast** your **Mcoder** — get yourself a Softek FP Compiler. I must point out that I have no connection with Softek other than as a very satisfied customer.

S D Turton,
Tamworth,
Staffs

20 ▶

Clumsy Colin splats for the last time

WHOOPS! Whee! Splosh! Whizz! Splat! Yes, it's **Action Biker** and what an amazing game it is!

Kindly disregard the last sentence.

My next door neighbour, a small, innocent, 10-year-old boy, went out one day with his life savings. In the local department store he found games beyond his wildest dreams! At last, all the games he'd only heard of! However, his money restricted him to the budget games, where he found . . . **Action Biker!**

He examined the inlay, there were some pretty neat screen shots. It looked exciting, and the title flashy. He delved into the darkest regions of his pockets for the £1.99 required.

With his Speccy on the blink — now suffering the Sinclair Repair Service Blues — he came round to my humble establishment to see the program he had acquired. After a boring seven minutes of loading the game presented us with joystick selection. After finally deciding that 'Curser' meant 'Cursor' we asked for keyboard controls. The game jerkily scrolled into life. Then we saw what the *Sinclair User* reviewers saw . . .

Aarrgghh! Who are those wallies that say it's good? The game does not even use *Sprite Graphics*. We can't get in the houses and what are those mysterious rectangular objects we find in the road? What does the message "Time to wake up colin" mean? Is it merely an attack of bad grammar?

Warning: **Action Biker** — (although it lacks action) — can seriously damage your wealth.

Philip Bond, Sean Murray,
Barry,
South Glamorgan

● *I don't like to say I told you so . . . Perhaps we'd better give ol' Clumsy Colin a rest now from the letters pages. After all, there are other turkeys out there. Nominations, anyone?*

Gordo should expand



WHY DOES 'Britain's Best Selling Computer Magazine' have what amounts to the worst adventure section of all the known major competitors?

I know for a fact, a fair number of people who are forced to buy *Computer & Video Games* every month so that they have the benefit of real adventure help and in-depth reviews.

With more Spectrums being sold than any other model, the chance to catch thousands of new readers may be lost if you don't change your adventure format. The number of adventure and arcade-adventure games being launched on the software buying public is phenomenal. It is my view, and a view shared by others, that this type of software will prove to be by far the most lucrative in the next 12-18 months. So don't delay, jump on the gravy train today!

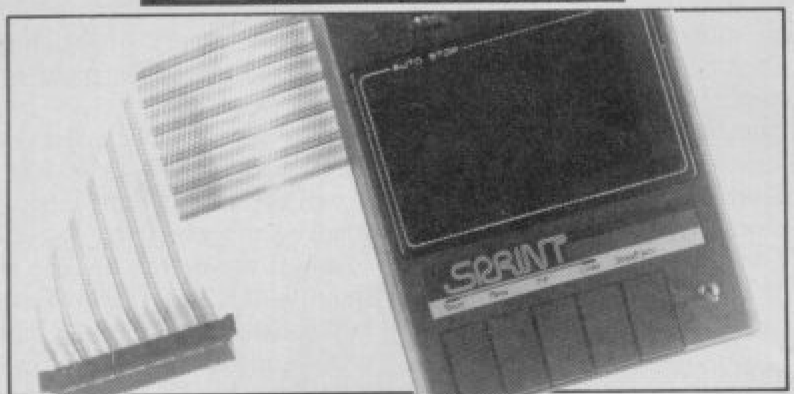
I don't like knocking people, but Gordo Greatbelly's adventure helpline is an interesting read, but it doesn't really give enough adventure hints per column inch! Richard Price gives fair and constructive reviews, but they are a little abrupt and don't really give you any real atmosphere. What your magazine needs is a larger adventure section with better adventure hints and tips, or you will lose readers and miss the chance to gain many more.

Paul Wakeling
Eastbourne,
E Sussex

PS. Don't let Keith Campbell and Derek Brewster grab all the adventure glory. It's time to change before it's too late.

● *I asked Richard to answer this one but he was so furious that he's gone off with Gordo to drown his sorrows. In his absence, I'll draw your attention to this month's adventure reviews, which are not exactly abrupt. And we'll try to give Gordo some extra inches, as it were . . .*

THE SPRINT HIGH SPEED DATA RECORDER



It loads Spectrums four times faster than an ordinary cassette player, and four times cheaper than the average disk drive

The new MkII Sprint loads and saves programs on the Spectrum four times faster than conventional cassette recorders. It even loads commercial and home recorded programs at high speed and they don't have to be resaved to do so! The tape format and data density on the tape is not changed with the Sprint so programs saved at speed can be loaded on a standard recorder though at the normal rate. The new Sprint is now Interface 1 and Microdrive compatible to further increase its versatility and so provide an innovative yet inexpensive new concept in program storage.

Use of the Sprint is simplicity itself:

- Retains all standard Spectrum commands in an unaltered form.
- Uses no RAM and no extra programs have to be loaded beforehand.
- Advanced circuitry eliminates volume setting.
- Simply plugs into the Spectrum port, no interface or external power required.
- Has its own expansion slot so you can still use joysticks, printers and other types of peripherals.

Technical Specifications:

- Loads all programs of reasonable quality and standard tape format. Will not work with "hyper-load" etc., unless resaved to standard format.
- Off-line switch fitted to disenable the Sprint whilst the Spectrum is running. Allows compatibility with standard recorders, microdrives and other peripherals with internal memories.

- Accepts standard commands.
- High quality injection moulded black ABS case with spark erode finish to match Spectrum case.
- Inbuilt 56-way rainbow cable with gold plated contact edge connector for linking to Spectrum.
- Full 56-way expansion slot on rear of Sprint (identical to Spectrum one).
- Tape speed 19 cm/sec.
- Enhanced Fast Forward and Rewind speed.
- Auto-stop system built-in.
- Dimensions: 190 mm long x 143 mm wide x 60 mm high.

Trade enquiries welcome

To: Macway Ltd., 189 Waller Avenue, Luton, Beds., LU4 9RS.

Please supply ______ Sprint Data Recorder(s) at £69.95 (inclusive of P&P, VAT and 12 months guarantee)

Name (please print) ______

Address ______

Signature ______

I enclose cheque/postal order made payable to Macway Ltd for £

Allow 14 days for delivery

ROMANTIC ROBOT present

56K Spectrum extension? Instant back-up of any program? Joystick & video interfaces? **YES!** All this & even more with

Nº1 SPECTRUM MULTIPURPOSE INTERFACE

multiface one Version '86 ™

UNPRECEDENTED - UNPARALELLED - UNBEATABLE at £39.95!

* Internal 8K ROM and 8K RAM open new concepts in Spectrum computing: 100% reliable saving of anything, anytime and onto all types of peripherals with extra 8K at user's disposal and with a full peek & poke facility covering the entire 56K. MULTIFACE ONE does not take any part of Spectrum RAM & does not need any additional software. Just push a button to freeze a program, save it and restart from the same point next time. Peek/poke facility and 8K RAM (say with a monitor disassembler) are also ideal for studying, modifying, developing programs.
* Menu-driven with prompts & one-touch commands: 1) Push button 2) Select function: exit/return/save/poke 3) Input name 4) Save to: tape/cartridge/wafer/opus/beta
* Extremely poverful & efficient compressing for fast re-loading & using minimal room on cartridges, tapes, wafers, disks. A 7K screen can be compressed to a few hundred bytes, the whole RAM into a few K (depending on a program).
* Option to save a full 24-line screen only
* Pressing the button & return can restart a "crashed" computer
* Through extension bus for connecting other peripherals
* User friendly, fully error trapped, simply magic
* Users must ensure the copyright laws are not infringed

Expand your Spectrum to 56K and stretch its capabilities even further with

multiface one ESSENTIAL SPECTRUM COMPANION

TRANS-EXPRESS

The software way of transferring Spectrum software. 4 utilities for m'drive, 2 for wafadrive, 2 for Opus Discovery. Invaluable for cartridge/disk maintenance & automatic transfers. Highly professional, user-friendly, versatile and comprehensive.

'An ingenious piece of software.'
***** Features ***** Performance PCN

TOP SOFTWARE AT BOTTOM PRICE

Wriggler

'One of the best games for any machine I've seen for very long time.'
'Wriggler is a totally original game.' CRASH SMASH — STAR GAME PCN
'Great game, good music, well recommended.' What Micro
'The grahics and sound are excellent and the game is totally addictive.'
10/10 value & playability. 9/10 graphics & sound. C&V Games
'This is a great game.' CAS 'Well worth buying.' ZX C & Crash
'If you've any sense you'll order your copy now.' PCN 'A WINNER' PCW

!NOW FOR AMSTRAD!!SPECTRUM version at Xmas PRICE!

MUSIC TYPEWRITER

Complete Spectrum music system for writing, editing, playing, printing & storing music. Its real notation graphics and ease of use make it an ideal educational tool. Great fun to play with & a lot to offer in serious use (transposing, dot matrix printout etc).

'A very professional piece of programming, easy to use, excellent screen presentation, error trapping & helpful prompts. If you're interested in music and own a computer then get it.' ZX Computing

MIDI compatible with MIDI MUSICIAN package
New overlay for Spectrum+ Now at Xmas price!

I enclose a cheque/PO for £............... (UK&Europe orders please add £1 overseas £2)

or debit my [Access] [Visa] No ______

Name .... Card expiry ....

Address ....

Please send me (tick as applicable):

TRANS-EXPRESS cartridge	£9.95 ☐	MULTIFACE	£39.95 ☐
disk (Opus Discovery)	£9.95 ☐	tape (for m'drive)	£ 7.95 ☐
MUSIC TYPEWRITER	£7.95 ☐	wafer (Rotronics)	£ 9.95 ☐
WRIGGLER Spectrum tape	£4.95 ☐	with supplement	£ 9.95 ☐
WRIGGLER Amstrad tape	£7.95 ☐	or cartridge	£ 6.95 ☐
		or disk version	£ 11.95 ☐

ROMANTIC ROBOT 77 Dyne Road London NW6 7DR ☎ 24 hrs [Access] [Visa] orders 01-625 9463 ☎ SU

Spanish pirates

I AM not surprised to see that Spain has been chosen for the launch of the new 128K machine. There seems to be a huge Sinclair market there. On three visits to Spain this year, I saw Sinclair magazines and software everywhere. There are newspaper kiosks everywhere in Spanish towns, and from these and small shops I have bought four different magazines, all apparently flourishing.

What did surprise me was the scale of blatant software piracy! In the same newsagents I counted over half a dozen cassette-based 'magazines' priced between £2-£6. I bought one which was quite simply a cassette of programs — nothing outstanding, but some fair programs. I also gave way to temptation and bought the infamous Infopress publication which you have mentioned.

On this cassette I got at least half a dozen known pieces of software. A utility program, announced as a great new discovery, turned out to be two **Supercode III** routines strung together in a Basic program. Titles on other cassettes gave me the impression that they too were straight copies of well-known software. Illustrations on some cassettes appeared to have been lifted straight from commercial software hits or from software ads. In Britain for example, the frogman from **Blood and Guts** was very prominent on one cassette mag. The only work which seems to go into those cassettes is translating any text into Spanish and adding a short instructions program before the main one on the cassette.

Why should it be normal to be faced with a pack of half a dozen copies of recent hits in a small newsagents in a little town off the beaten track in the mountains? The price of normal software is not much higher than in Britain, so that can't be the reason. There seem to be only a couple of native software houses — why aren't there more, as the market seems to be such a big one? I saw no sign of legal budget software houses. Strange.

Many of the pirated programs I have seen in Spain are either older games which no longer sell in Britain, or are second-rate games: maybe the publishers don't think it's worthwhile trying to do anything about it. Still, there does seem to be some hope, and the original programmers may some day soon be able to take advantage of this huge potential market.

J B Paton
Condéon, France

Lonely ROMs

I AM a 13-year-old with a 48K Spectrum and lots of games. I would like a girl penfriend of the same age to swap POKEs and tips with.

Gareth Reece,
10 The Cedars, Whickham,
Newcastle upon Tyne,
NE16 5TH

I AM 13 years old and I own a Spectrum 48K. I would like to have a penfriend with whom I can swap programs, POKEs etc.

Kristoffer Bakke,
Welhavensgt 71,
5000 Bergen,
Norway

I'M a boy from Sweden, I'm 14 years old, I've got a Spectrum 48K, I would like to get a penfriend who's got a Spectrum 48K. Please, please write to me.

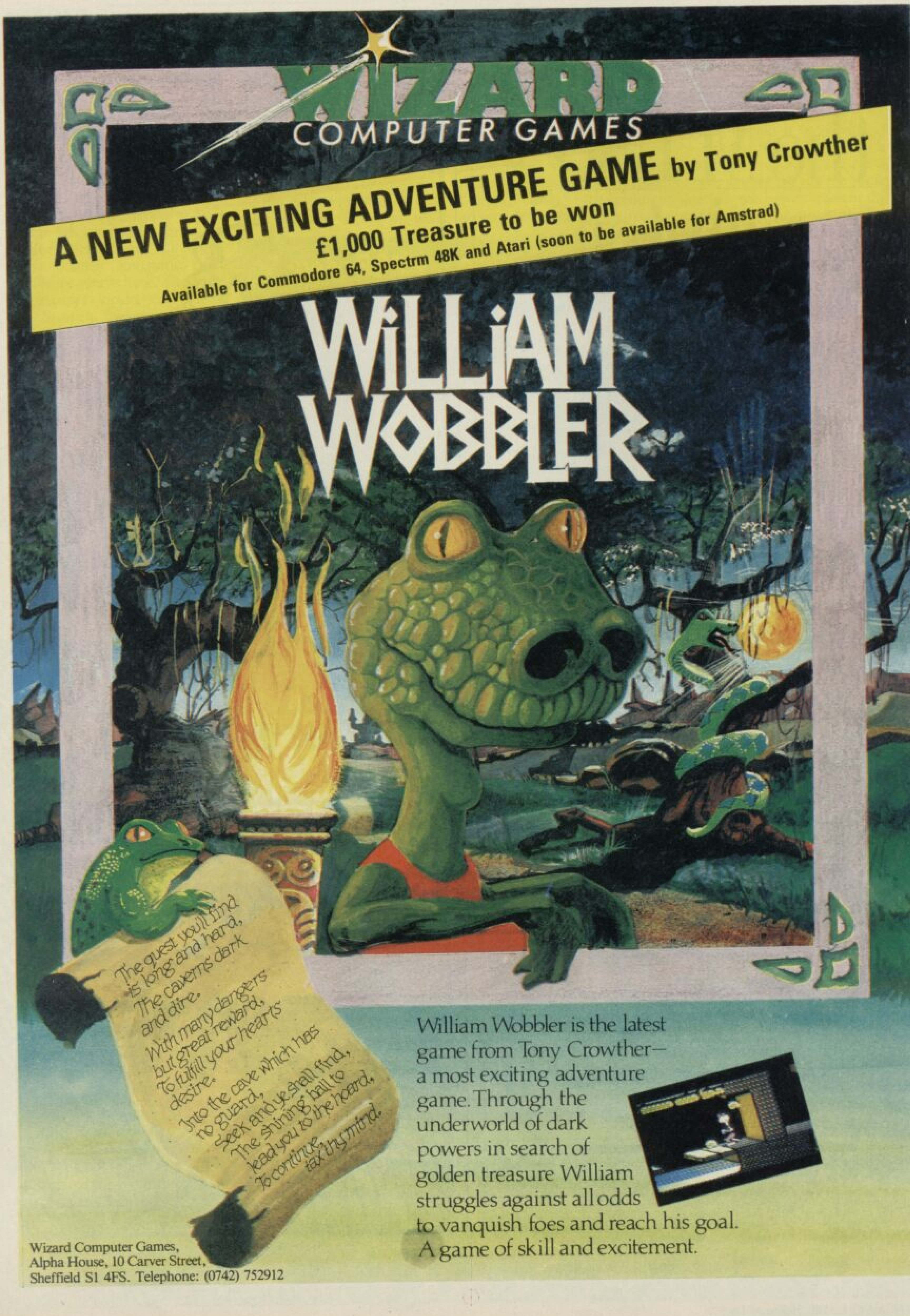
Lasse Ronnlund,
Furuvagen 27,
57082 Malilla, Sweden

I AM a 14-year-old boy and I own a 48K Spectrum. I wish to have penpals, boys or girls, to exchange games and so on.

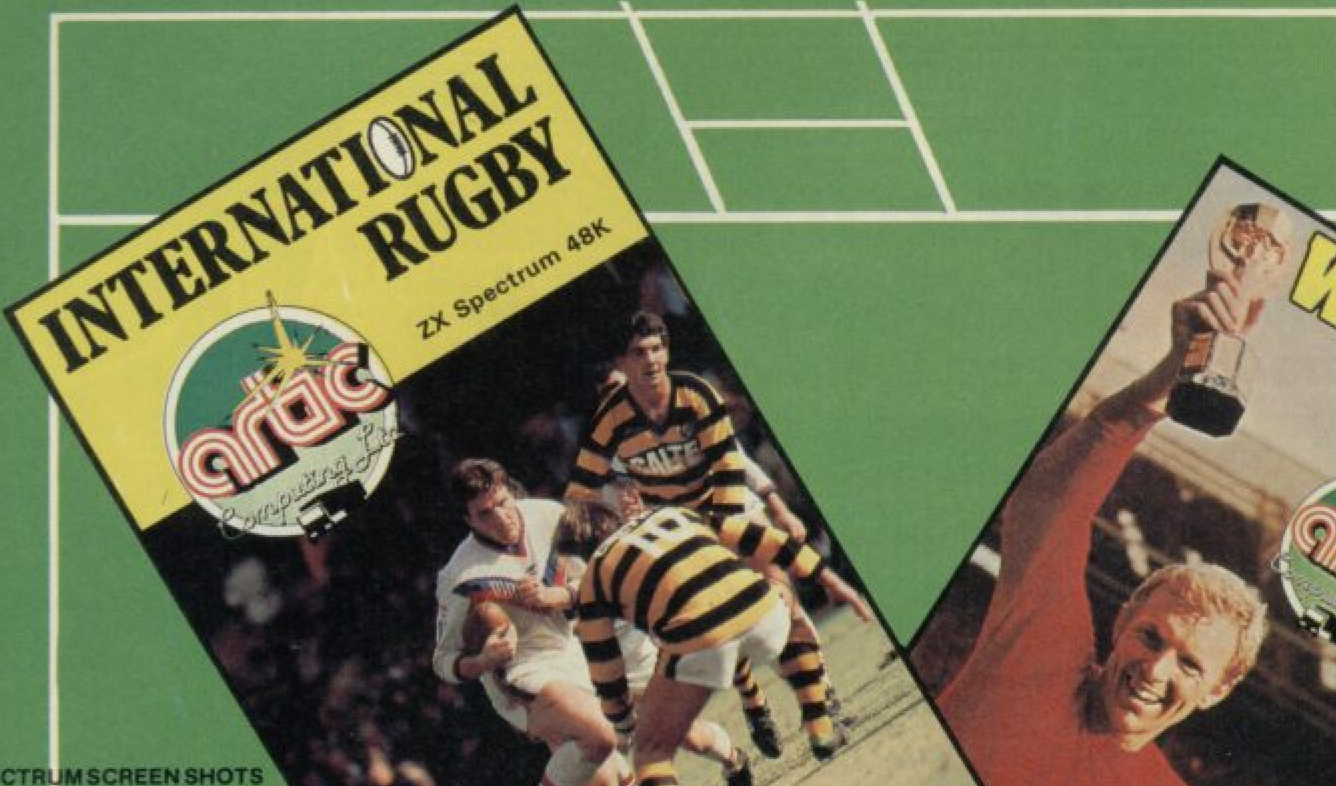
Allen Tan,
Blk 119, Lorong 1
Toa Payoh, #02-443
Singapore 1231

I AM 12 and I would like a penpal who owns a Spectrum and is willing to swap games.

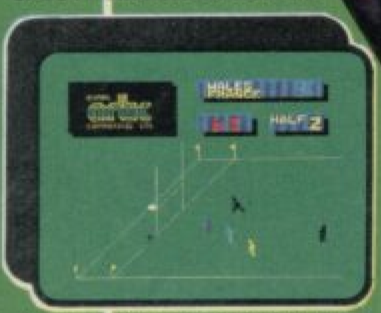
Michael Beveridge,
33D Pinkie Road,
Musselburgh, East Lothian,
Scotland EH21 7ET



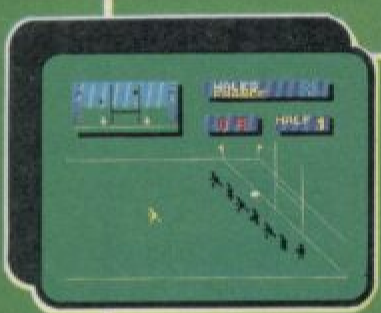
WIZARD
COMPUTER GAMES
A NEW EXCITING ADVENTURE GAME by Tony Crowther
£1,000 Treasure to be won
Available for Commodore 64, Spectrm 48K and Atari (soon to be available for Amstrad)
WILLIAM WOBBLER
The quest you'll find is long and hard,
The caverns dark and dire.
With many dangers but great reward,
To fulfill your hearts desire.
Into the cave which has no guard,
Seek and ye shall find,
The shining ball to lead you to the hoard,
To continue, tax thy mind.
William Wobbler is the latest game from Tony Crowther– a most exciting adventure game. Through the underworld of dark powers in search of golden treasure William struggles against all odds to vanquish foes and reach his goal. A game of skill and excitement.
Wizard Computer Games,
Alpha House, 10 Carver Street,
Sheffield S1 4FS. Telephone: (0742) 752912



SPECTRUM SCREEN SHOTS



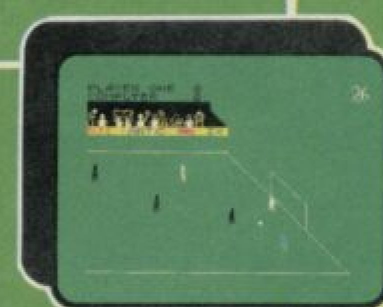
"YOU KICK A CONVERSION BUT HAVE YOU COMPENSATED ENOUGH FOR THE WIND?"



"UNDER PRESSURE — YOU TRY FOR A DROP GOAL".



WORLD CUP II COMMODORE 64



WORLD CUP 48K SPECTRUM

INTERNATIONAL RUGBY
Another excellent sports simulation. You play as a home international team, battling for the Triple Crown or even the Grand Slam. The game includes all the features that you would expect from this superb simulation — including an international league table.

WORLD CUP FOOTBALL
A fabulous simulation of real soccer with complete multi-colour graphics — your aim is to become the holder of the most coveted trophy — "The World Cup". Play against a friend or the computer.

SOON TO BE RELEASED FOR THE AMSTRAD AND COMMODORE 64

NOW AVAILABLE FOR COMMODORE C16 AND AMSTRAD 464

SCORE— OR TRY ?

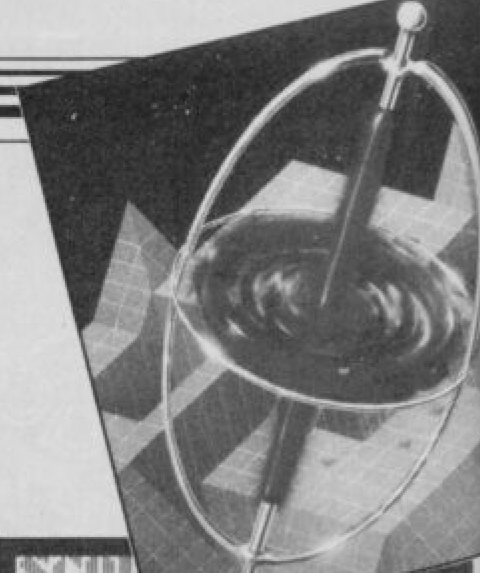
INTERNATIONAL RUGBY
AVAILABLE FOR:

SPECTRUM (48K)	**£7.95**

WORLD CUP FOOTBALL
AVAILABLE FOR:

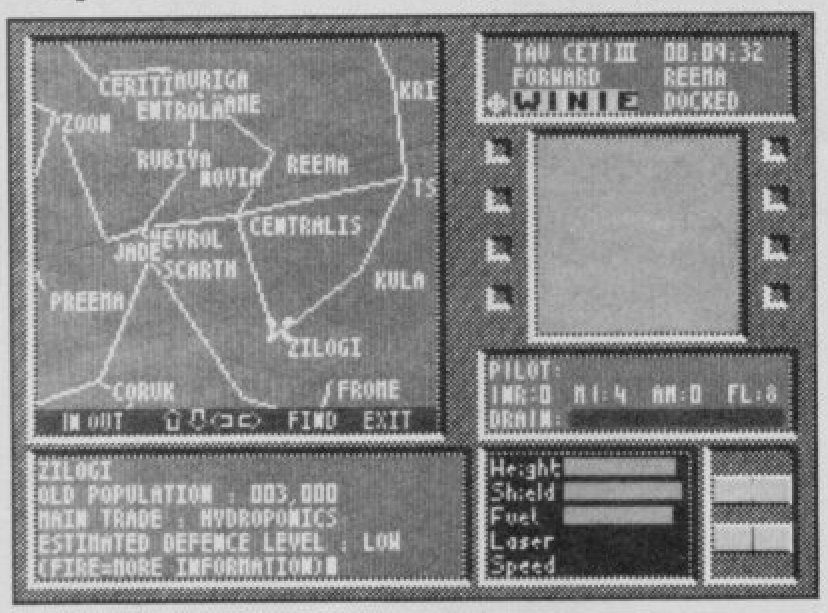
SPECTRUM (48K)	**£6.95**
COMMODORE C16	**£6.95**
AMSTRAD 464	**£7.95**
AND WORLD CUP II	
COMMODORE 64	**£7.95**

Artic Software is available from all good retail stores or direct from:
ARTIC COMPUTING, MAIN STREET, BRANDSBURTON, DRIFFIELD, YO25 8RL. Tel: (0401) 43553



Players' paradise

Masses of hints, tips and pokes from our Zap Chat mailbag. Keep them coming in!



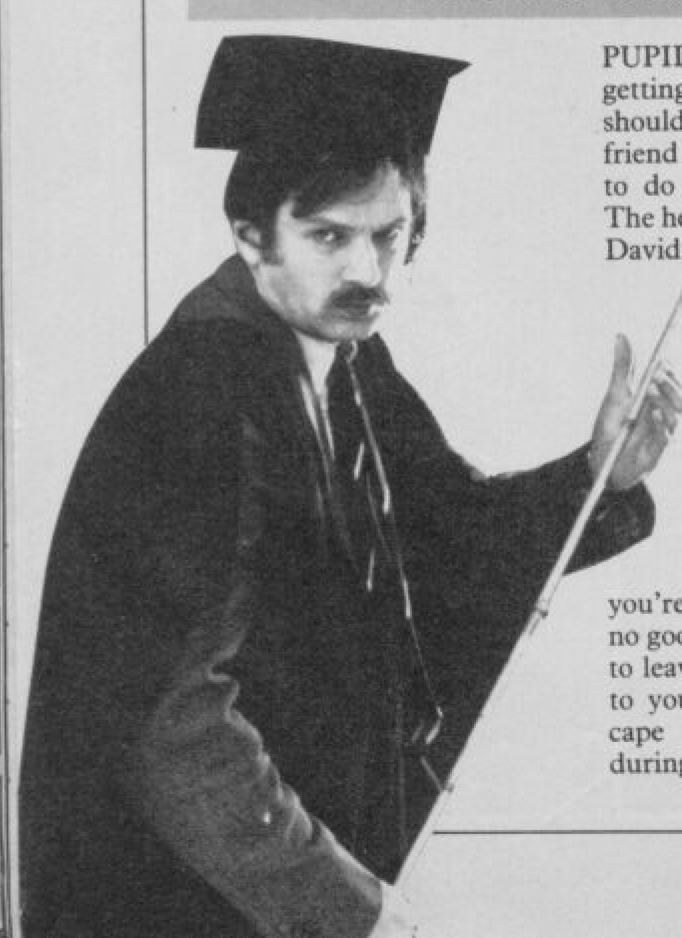
Tau Ceti

BATTLE-WEARY Gal-Corp pilots are recommended to use care approaching cities on **Tau Ceti.** Scout around the edges, looking out of the side windows, and then approach your destination at speed from the outer edge.

CRL tactician, Clement Chambers, warns against trying to fight on the move, and recommends shooting out the radar towers which attract defensive robots to you. He also says you should try to flip from highly-defended cities to low ones, "otherwise you'll get a bit knackered." The position of the rods varies from game to game, so make notes on the scratch-pad as you can fly from city to city.

Watch out for surprises, fellow officers. Some reactors contain extra shields and it is also rumoured that a Smart bomb is hidden somewhere on the planet, but nobody — not even Captain Clem — has been able to find it yet.

Back to Skool



PUPILS who find themselves getting far too many lines should try kissing their girlfriend — she may be persuaded to do some of them for you. The headmaster at Microsphere David Reidy, also wishes to remind the boys to water the flowers in the play-ground. . . . and see what happens. If you're having trouble stealing the headmistress' sherry remember that she'll only leave the cupboard unlocked if she thinks you're in the boys' school. It's no good hanging around for her to leave, you'll have to go back to your building and then escape from your classroom during lessons.

Kung Fu

CAN ANYONE beat my score on **Yie Ar Kung Fu** by Imagine? I scored 641,000 on stage 63 with six lives left when I pulled the plug.

Kevin Mogridge,
London SE5

Monopoly

ON MONOPOLY I have a high score of £10,980, beating all opposition and holding all positions except Bond Street.

David Taylor,
Lancashire

Frankie

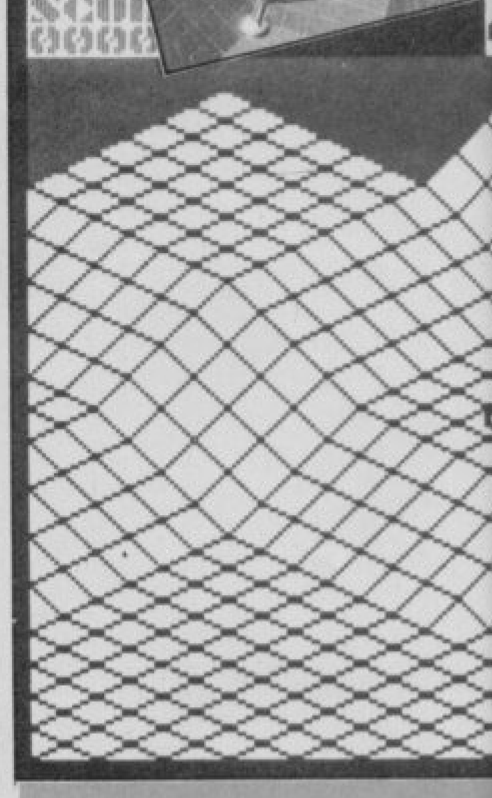


IN ANSWER to Ashley Buckingham's letter in the December issue about **Frankie Goes to Hollywood,** you have to collect at least three floppy discs. The third floppy disc works.

Svenn Erik Hasselberg,
Norway

I'VE FOUND a bug in **Frankie Goes to Hollywood.** I was on the arcade section where you have to shoot various people and, just as I shot the last one, the time went down to zero. The screen stayed the same, but I was unable to move the cursor. In the end I had to turn it off.

George Taylor,
Halifax,
West Yorkshire



Gyroscope

I HAVE enclosed some POKEs for Melbourne House's new game, **Gyroscope.** It is similar to the arcade machine **Marble Madness** and features marvellous three dimensional graphics and brilliant two channel tunes.

POKE 52961,201 makes the game return to basic after playing.

POKE 52981,0:POKE 52982,0:POKE 52983,0 gives many more lives.

POKE 53330,0:POKE 53331,0: POKE 53332,0 gives infinite time.

POKE 53253,0:POKE 53254,0:POKE 53255,0 makes the ! on the floor not affect you.

POKE 53322,0:POKE 53323,0:POKE 53324,0 stops the nasties killing you.

POKE 52992,0:POKE 52993,0:POKE 52994,0 makes the nasties invisible.

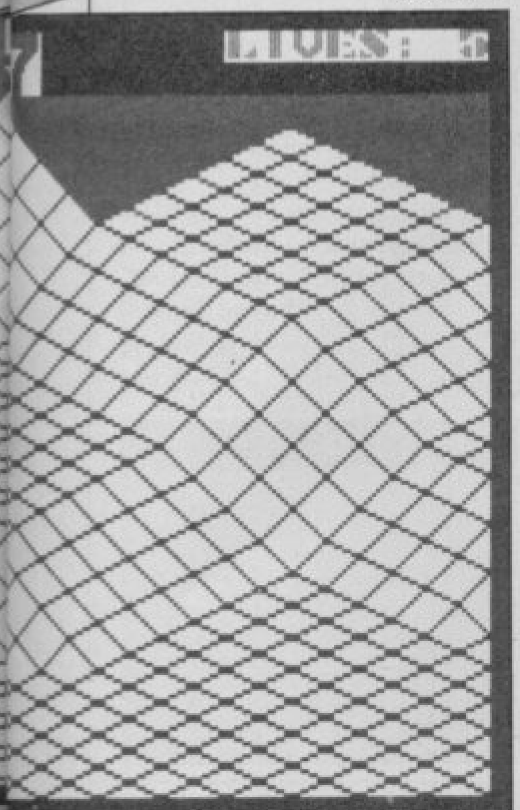
POKE 53311,0:POKE 53312,0:POKE 53313,0 makes the game very fast, you leave an image behind — try it for a laugh.

RANDOMIZE USR 52930 starts the game.

Rockman

IF ANYBODY has completed screen C on **Rockman,** will you please tell us how to do it? We have tried for ages but cannot complete it.

Ian Sutherland and Brad Taylor, Perth, Scotland



To enter the POKEs, MERGE the loader program for **Gyroscope** and take out the RAND USR command from the end of the line. Run the loader and let the rest of the game load. When it stops loading you can type in the POKEs.

One interesting feature is that after finishing the fifth landscape the game plays a new tune and restarts with negative gravity. Now you are dragged up slopes rather than down them by gravity. It is very disorientating!

To see the final effect try this program:

```
10 RANDOMIZE USR 54607
20 RANDOMIZE USR 53051
30 RANDOMIZE USR 54816
40 RANDOMIZE USR 52976:GOTO 10
```

If you run this the title page will come up. Start the game and it will finish straight away, allowing you to play it with the reversed gravity.

Hywel Fine, Winterbourne, Bristol

Elite

I HAVE a tip for **Elite.** When you have Elite Status — Zap Chat, January issue — do not sell your cargo. Equip your ship with military lasers and the like and try to buy some more cargo.

You will then receive a plea for help. Accept the plea and hyperspace to any planet. You will now see that instead of 'fugitive' you are 'clean'. When you have landed on the planet, sell the cargo and you will receive a thankyou note and 100g of gems. Good, eh?

Gary Williams, London SW16

Mr Freeze

IN REPLY to Andrew Down's letter — December — about **Mr Freeze,** you can get past the robots on screen six as follows:

Climb onto the platform avoiding the laser then move to the edge of the platform and stop. Hold down the jump key but do not move. Just as the robots are about to turn away from you, press down on the right key — still holding down jump — and you should land on the robots' heads. When they get to the other side just jump off onto the platform.

Martin Burns, Saltash, Cornwall

RESCUING people from a supernova explosion can be very profitable, but you'll find yourself escaping from the entire galaxy to get away from the effects of the radiation.

Novice traders should find a safe route and stick to it until they can buy equipment. Commander Jacinth — currently a dangerous fugitive running narcotics in the fifth galaxy — says it's best to buy a good laser as soon as possible, followed by fuel scoops and an energy drive.

Jacinth habitually uses his escape pod to wipe out his criminal record, which disappears when the ship is destroyed, and when he's not engaged in drug smuggling, recommends dealing in liquor, furs and computers as the most profitable trade goods.



I RECENTLY purchased **Elite** and have found a bug which makes play easier.

To get from one space station to another, leave the space station, slow down and flip over so that you return to the same station to dock. Just before you enter, press H for hyperspace and when you have docked you will find your ship in a different space station.

C Richardson, Fareham, Hampshire

I BOUGHT a copy of **Elite** at the beginning of November, and have played it almost continually since then. That is until now.

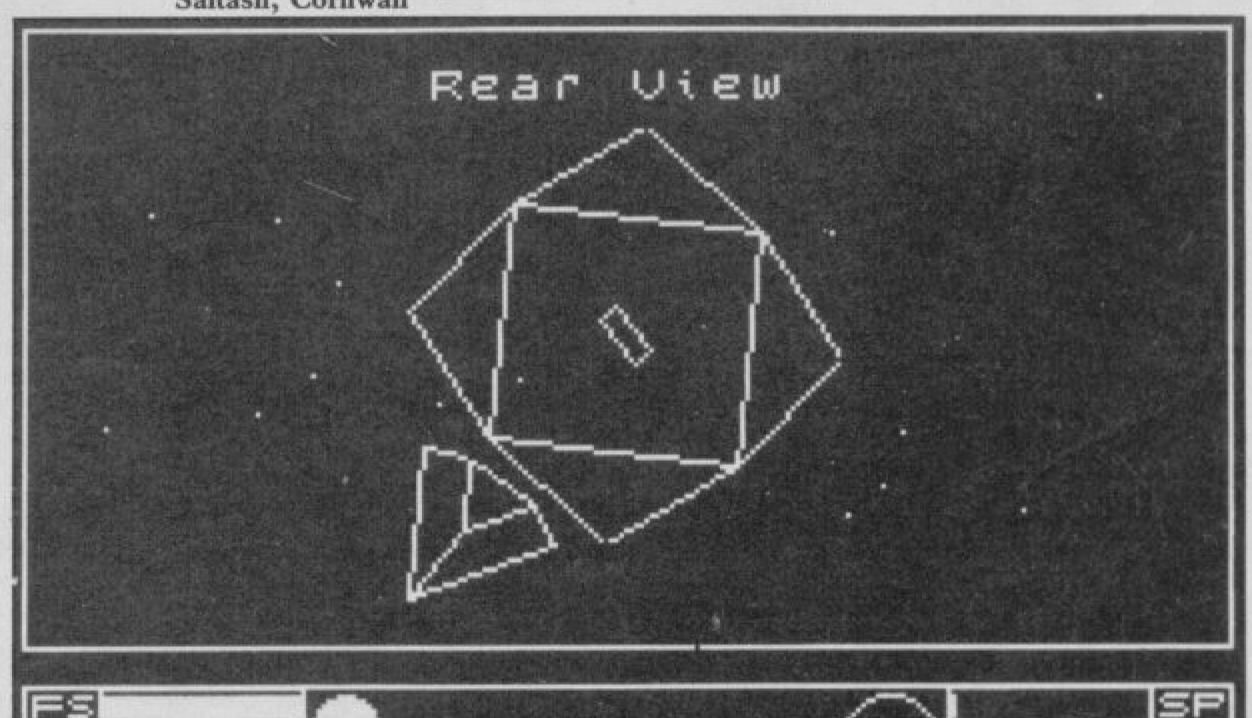
I have reached the stage of being Dangerous and I have 120,000CR.

I am now faced with hoards of invisible ships which only become visible when they fire. It is impossible to play against these odds. Even if I use an energy bomb, when I next jump, there they are again.

Is there a bug in my program, or is it some sadistic programmer who wants to make the best computer game to date — practically unplayable?

J Smith, Plymouth

28 ▶





Soul of a Robot

Here are some tips for Mastertronic's **Soul of a Robot.**

Always collect the laser.

You will need over 180 psyche to be able to fly up a blank screen.

Over 60 psyche is needed to fly over the deadly triangles.

Never jump into a screen.

Destroy the enemy in every room.

Darren Heaton,
Malvern,
Worcs

Spike

IN FIREBIRD'S **Spike,** when you have reached the last cavern and placed the magic sphere on its plinth you have to hit one of the four switches to get your reward.

If you reach the last switch on the left a naked girl is revealed! Don't be alarmed, it's nothing crude — more of a statuette. The third switch also reveals a girl, but this one's fully dressed.

To get the magic sphere from the rainbow room, line Spike up just outside the left hand edge of the rainbow and leap into it so that you land on the bottom step. Jump up twice only to reach the platform on the right. Walk to the edge and wait for the sphere to drift towards you.

Kevin Johnson,
London N13

International Karate

I THINK that **International Karate** is a waste of money. I have beaten it in my first two attempts. My high scores are 88,500 on version one and 68,350 on version two.

I have also progressed to the equivalent of 26th Dan on **Way of the Exploding Fist** with a score of 968,900.

Adrian Storey,
Huntingdon,
Cambridgeshire

WHILE growing very frustrated, I learnt a brilliant move in **International Karate.**

At the start of each bout, when the man says begin, press up on the joystick and fire. This results in a flying kick which gets your opponent down every time. You get full marks and the time doesn't go down either.

This technique works, and you are guaranteed a fight around the world.

Andrew Whitaker,
Blackpool,
Lancs

I HAVE just found a bug in **International Karate.** Each time you pass 86,000 on New York City, and no matter if you win both rounds, you still lose.

Wayne James,
Bromley,
Kent



30▶

GENERAL ENQUIRIES
TELEPHONE
0924-402337

THOUGHTS & CROSSES

37 MARKET STREET, HECKMONDWIKE, WEST YORKS.

Shop Hours 9 am — 5 pm Mon — Sat

CREDIT CARD ORDERS TEL: (0924) 409753

VISA · AMERICAN EXPRESS

Title	Company	Price
Barry McGuigan	Activision	7.15
Ghost Busters	Activision	8.10
Mind Shadow	Activision	7.20
Spiderman	Adventure	8.95
Robot Messiah	Alaphabatium	7.15
Archon	Ariolasoft	9.90
Panzadrome	Ariolasoft	7.15
Chess II	Artic	5.00
Chess Tutor	Artic	3.50
Eye of Bain	Artic	3.50
Galaxians	Artic	3.00
Golden Apple	Artic	3.50
Invaders	Artic	2.50
On the Oche	Artic	3.00
Snooker	Artic	3.00
World Cup Soccer	Artic	6.25
Graham Gooch	Audiogenic	8.95
Secret of St Brides	Audiogenic	6.25
Deus Ex Machina	Automata	9.95
Beta Basic 3.0	Betasoft	13.50
Doomdarks Revenge	Beyond	8.95
Lords of Midnight	Beyond	8.95
Psytron	Beyond	7.15
Shadowfire	Beyond	8.95
Spy v's Spy	Beyond	8.95
Sorderous Shadow	Beyond	8.95
Starquake	Bubblebus	7.15
Masterfile	Campbell	13.50
Masterfile & MF Print	Campbell	18.00
Anthem	CCS	8.95
Astronomer	CP Software	8.95
Backgammon	CP Software	5.35
Bridge Player 2	CP Software	8.95
Bridge Tutor Advanced	CP Software	5.35
Bridge Tutor Beginner	CP Software	5.35
Draughts	CP Software	5.35
Pinball Wizard	CP Software	5.35
Snail Logo	CP Software	8.95
Superchess 3.5	CP Software	8.05
Supercode III	CP Software	11.65
ZX Reversi	CP Software	5.35
Formula One	CRL	7.15
Juggernaut	CRL	7.15
Dungeon Master	Crystal	3.50
Halls of Things	Crystal	3.50
Rommels Revenge	Crystal	3.50
Mini Office	Database	5.35
Red Arrows	Database	8.05
2112AD	DD	7.15
Forbidden Planet	DD	7.15
Fighter Pilot	Digital	7.15
Tomahawk	Digital	8.95
Dictator	DK Tronics	2.75
Maziacs	DK Tronics	3.50
Popeye	DK Tronics	6.25
View to a Kill	Domark	9.90
Combat Lynx	Durrell	8.05
Critical Mass	Durrell	8.05

Title	Company	Price
Sabator	Durrell	8.05
I Of The Mask	Electric Dreams	8.95
Airwolf	Elite	6.25
Frank Bruno Boxing	Elite	6.25
Booty	Firebird	2.50
Gyron	Firebird	8.95
Elite	Firebird	13.50
Dun Daragh	Gargoyle	8.95
Marsport	Gargoyle	8.95
Sweevors World	Gargoyle	7.15
The Illustrator	Gilsoft	13.50
The Quill	Gilsoft	13.50
Madcap Maner	Gilsoft	4.95
The Hollow	Gilsoft	4.95
The Patch	Gilsoft	3.35
Monty Mole	Gremlin	5.35
Monty on Run	Gremlin	7.15
Super Sluth	Gremlin	7.15
Wordspell	Griffin	5.00
Forth Protocol	HCP	11.65
Avalon	Hewson	7.15
Dragontorc of Avalon	Hewson	7.15
Heathrow International	Hewson	7.15
Southern Belle	Hewson	7.15
3D Lunar Attack	Hewson	4.00
Astro Clone	Hewson	7.15
Paradroid	Hewson	7.15
C Compiler	Hisoft	22.50
Dev Pac 3	Hisoft	12.50
Pascal	Hisoft	22.50
Ultrakit	Hisoft	8.50
Colt	Hisoft	11.65
They Sold a Million	Hitsville	8.95
Alchemist	Imagine	2.75
Hypersports	Imagine	7.15
Mickie	Imagine	7.15
World Series Baseball	Imagine	6.20
Zzoom	Imagine	2.75
World Series B Ball	Imagine	7.15
Confuzion	Incentive	6.25
Final Mission	Incentive	3.00
Millionaire	Incentive	2.75
Mountains of Ket	Incentive	3.00
Temple of Vran	Incentive	3.00
Animated Strip Poker	Knightsoft	6.25
Monopoly	Leisure	8.95
Adventure Quest	Level 9	8.90
Colossal Adventure	Level 9	8.90
Dungeon Adventure	Level 9	8.90
Emerald Isle	Level 9	6.25
Lords of Time	Level 9	8.90
Red Moon	Level 9	6.25
Return to Eden	Level 9	8.90
Snowball	Level 9 (Alpha)	8.90
Worm in Paradise	Level 9	8.95
Desert Rats	LLS	8.95
Flight from the Dark	Lone Wolf	8.95

Title	Company	Price
Confrontation	Lothlorien	7.15
Confrontation Scen 1	Lothlorien	5.35
Confrontation Scen 2	Lothlorien	5.35
Panzer Attack	Lothlorien	5.35
The Bulge	Lothlorien	8.99
Blockbusters	Macsen	7.15
Brian Jacks Superstars	Martech	7.15
Eddie Kidd's Jump Challenge	Martech	6.25
G.C. Strongman	Martech	7.15
Austerlitz	McLothlorians	8.95
Pheenix	Megadodo	4.95
Abersoft Forth	Melbourne	13.50
Hampstead	Melbourne	8.95
Hurg	Melbourne	13.50
Melbourne Draw	Melbourne	8.00
Sherlock	Melbourne	13.50
Starion	Melbourne	7.15
Way of Exploding Fist	Melbourne	8.05
Fighting Warrior	Melbourne	7.15
Terrermolinos	Melbourne	7.15
Gyro Scope	Melbourne	7.15
Adrian Mole	Mosaic	8.95
Diary Adrian Mole	Mosaic	8.95
3D Death Chase	Micromega	3.50
Back to Skool	Microsphere	6.25
Omnicalc 2	Microsphere	13.50
Skool Daze	Microsphere	5.35
Everyone's a Wally	Mikro-Gen	8.95
Herbert's Dummy Run	Mikro-Gen	8.95
Shadow of Unicorn	Mikro-Gen	14.95
Sir Fred	Mikro-Gen	8.95
Alien	Mind Games	8.95
American Football	Mind Games	8.99
Nick Faldo Golf	Mind Games	8.95
First Steps with the Mr Men	Mirrorsoft	8.05
Quick Thinking	Mirrorsoft	3.50
Erik the Viking	Mosaic	8.95
Machine Code Tutor	New Gen	13.50
Lightmagic	New Gen	13.50
Machine Lightning	Oasis	17.95
Spec Mac Mon	Oasis	13.50
White Lightning	Oasis	13.50
Daley Thompson's Decathlon	Ocean	6.20
Daley Thompson's Supertest	Ocean	6.25
Frankie Goes to Hollywood	Ocean	8.95
Match Day	Ocean	7.15
Royal Birkdale	Ocean	5.30
Street Hawk	Ocean	6.25
Rambo	Ocean	7.15
Never Ending Story	Ocean	
Address Manager Standard	OCP	8.05

Title	Company	Price
Address Manager Plus 80	OCP	17.95
Casino Royal	OCP	5.35
Editor Assembler	OCP	11.65
Finance Manager Standard	OCP	8.05
Finance Manager Plus 80	OCP	17.95
Stock Manager Standard	OCP	8.05
Stock Manager Plus 80	OCP	17.95
V.A.T. Manager Standard	OCP	8.05
V.A.T. Manager Plus	OCP	17.95
Robin of the Wood	Odin	8.95
Editor & Assembler	Picturesque	7.65
Spectrum Monitor	Picturesque	6.75
Paint Plus	Print 'n' Plotter	8.95
Screen Machine	Print 'n' Plotter	7.40
Battle for Midway	PSS	8.95
Sword & Sorcery	PSS	8.95
Glass	Q.S.	7.15
Trans Express (cass.)	Romantic	8.95
Bored of Rings	Silversoft	8.95
Backgammon	Sinclair	3.00
Castle Spellerous	Sinclair	7.15
Catell IQ Test	Sinclair	5.00
Chequered Flag	Sinclair	4.00
Chess	Sinclair	4.00
Chess Tutor	Sinclair	5.00
Collectors Pack	Sinclair	3.50
English Literature	Sinclair	3.50
Horace Goes Skiing	Sinclair	3.00
Learn to Read 3	Sinclair	5.00
Learn to Read 4	Sinclair	5.00
Learn to Read 5	Sinclair	5.00
Make a Chip	Sinclair	5.00
Musicmaster	Sinclair	5.00
Print Utilities	Sinclair	5.00
Scrabble	Sinclair	8.00
Small Business Accounts	Sinclair	6.50
Survival	Sinclair	5.00
Vu Calc	Sinclair	4.50
Vu File	Sinclair	4.50
Vu 3D	Sinclair	5.00
ZX Forth	Sinclair	7.50
The Artist	Softek	11.65
Jet Set Willy	Software Projects	5.35
Jet Set Willy II	Software Projects	6.25
Int. Karate	System 3	5.85
Tascopy	Tasman	8.90
Tasmerge	Tasman	9.80
Tasprint	Tasman	8.90
Taswide	Tasman	4.95

Title	Company	Price
Tasword Two	Tasman	12.50
Fairlight	The Edge	8.95
Alien 8	Ultimate	8.95
Atic Atac	Ultimate	4.95
Gun Fight	Ultimate	8.95
Jetpac	Ultimate	4.95
Knight Lore	Ultimate	8.95
Lunar Jetman	Ultimate	4.95
Nightshade	Ultimate	8.95
Sabre Wulf	Ultimate	8.95
Underwurlde	Ultimate	8.95
Beach Head	US Gold	7.15
Blue Max	US Gold	7.15
Bruce Lee	US Gold	7.15
Raid over Moscow	US Gold	7.15
Spy Hunter	US Gold	7.95
Zaxxon	US Gold	7.15
Impossible Mission	US Gold	7.15
Beach Head II	US Gold	7.15
The Biz	Virgin	7.15
Android Two	Vortex	3.00
Highway Encounter	Vortex	7.15
Castle of Dreams	Wigit	7.15
Adventure Playground	Wigit	7.15
Howzat	Wyvern	4.95

QL SOFTWARE

Title	Company	Price
Bridge Player	CP Software	
Sprite Designer	Digital	17.95
Super Backgamon	Digital	11.65
Astrologer	Digital	22.50
Super Monitor Diss	Digital	17.00
Hyper Drive	English	13.50
Assembler	GST	35.95
Touch and Go	Harcourt	17.95
QL Mon	Hisoft	17.95
BCPL	Metacomco	53.95
QLC	Metacomco	89.95
QL Assembler	Metacomco	35.95
Lisp	Metacomco	53.95
Pascal	Metacomco	80.95
Chess	Psion	17.95
Match PT	Psion	13.50
Integrated Account	Stage Soft	79.95
Graphi QL	Talent	31.50
West	Talent	17.95
Zkull	Talent	17.95
Cosmos	Talent	13.95
Cartridge Doc	Talent	13.50

HARDWARE

Item	Price
SPECTRUM PLUS (£50 free Software)	£129
SINCLAIR QL	£189

Item	Price
CANON PW1080A PRINTER	£290
MANNESMAN TALLY M180 PLUS PRINTER (Centronics)	£195
SHINWA CPA80 PRINTER NLQ (Centronics)	£215
MICROVITEC MZ1431 (SPECTRUM) MONITOR	£245
MICROVITEC DQ1451 (QL) MONITOR	£275
PHILIPS GREENSCREEN MONITOR	£82
3 CHANNEL SOUND	£28
CURRAH MICROSPEECH	£20
DK TRONICS DUAL PORT INTERFACE	£12
BUDD INTERFACE (+ reset switch)	£12
DATAL ELECTRONICS INTERFACE	£9
CAMBRIDGE PROGRAMMABLE JOYSTICK + INTERFACE + PROGRAM	£29
DK TRONICS PROGRAMMABLE INTERFACE	£15
FORMULA 1 JOYSTICK	£16
SURE SHOT JOYSTICK	£15
SPECTRUM PVC COVER	£2
SPECTRUM PLUS PVC COVER	£3
SAGA EMPEROR PVC COVER	£4
CURRAH MICROSLOT	£7
EXTENSION TO KEYWAY (Ribbon)	£11
MICRODRIVE EXTENSION LEAD	£8
SLOMO (Game speed controller)	£14
ON/OFF SWITCH	£4.50
WAFADRIVE to CENTRONICS PRINTER lead	£10
DESCOVERY 1	£190
ZX EXPANSION SYSTEM (Includes Microdrive/Interface 1/Tasword Two/Masterfile/Ant Attack/Games Designer	£95
ZX INTERFACE 1	£45
ZX MICRODRIVE	£45
S/S D/D 40T 10 for	£16
D/S D/D 40T 10 for	£20
D/S D/D 10 for	£26

PARROT, CONTROL DATA

Item	Price
S/S D/D 40T 10 for	£16
D/S D/D 40T 10 for	£20
D/S D/D 10 for	£26
Parrot diskettes include free plastic case.	
KEMPSTON INTERFACE-E (Rom for Spectrum-Centronics Printer)	£40
KEMPSTON INTERFACE-S (Cassette Based interface as above)	£30
TASMAN INTERFACE (Cassette Based Interface as above)	£35
DK KEYBOARD	£29
SAGA EMPEROR KEYBOARD	£29
DK LIGHT PEN	£18
LIGHT WRITER	£18
MICRODRIVE CARTRIDGE	£1.99
PACK OF 4 CARTRIDGES	£7.50

All prices include postage, packing and VAT. Please order stating, 1) Program Required, (please tick games required) 2) Amount Enclosed, 3) Name and Address. 4) Type of computer.
Credit card order please state exp. date. Name......................................Address......................................

· FREE COMPUTER PROGRAMS · INSTANT SPORTS RESULTS · CONSTANT T.V. UPDATE ·

THE VOLEX TTX2000S

ALL FREE FROM ANY T.V. VIA THE VOLEX TELETEXT – TELESOFTWARE ADAPTOR

A WORLD OF INFORMATION AT YOUR FINGERTIPS



TELETEXT

is extra information available day or night whilst television transmitters are on air and without any charge and can now be enjoyed without the need of having a special Teletext T.V. set. All you need is to plug in your VOLEX TTX2000S Adaptor to receive 4-Tel from Channel 4, CEEFAX or ORACLE services.

TELESOFTWARE

is the name for computer programs which are broadcast as Teletext. Thus they may be loaded "OFF-AIR" into your Spectrum instead of being loaded from, say, tape or microdrive. 4-Tel is Channel Four's Teletext magazine and they are now broadcasting FREE telesoftware. Because of the special nature of teletext these programs are frequently updated – so you will not see the same thing each time you run the program.

STORING PAGES

With the Volex Adaptor it is possible to send received pages to your printer or to Microdrive for storage and later recovery.

EASY TO SET UP AND USE

As simple procedure tunes the VOLEX Adaptor to your local teletext channels. All loading of Telesoftware is via an index page on 4-Tel which the Adaptor will automatically find and display for you. Absolutely no modification is necessary to T.V. or computer. A comprehensive manual being supplied.

THE VOLEX TTX2000S

IS THE ADAPTOR APPROVED BY CHANNEL FOUR T.V.

*SPECIAL NEW YEAR OFFER

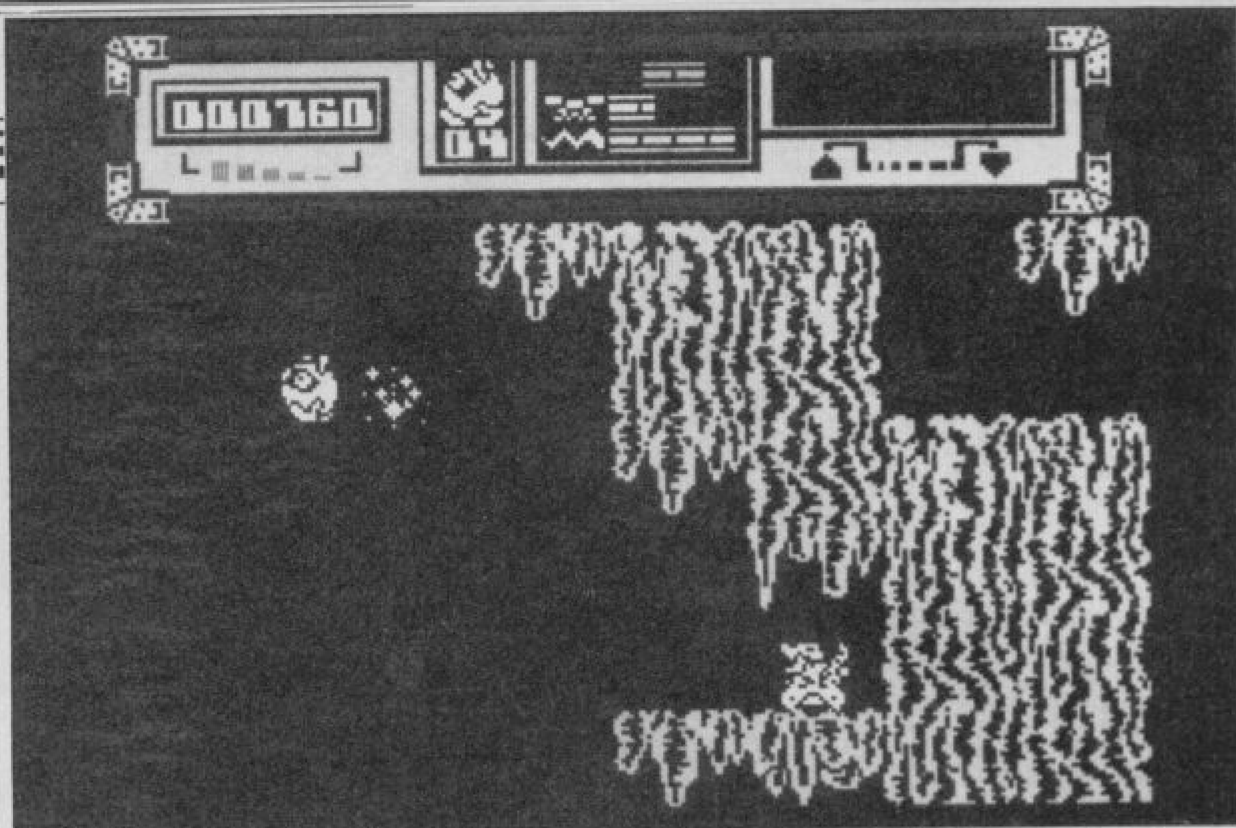
Simply write out your order and post to
VOLEX ELECTRONICS, STOWELL TECHNICAL PARK,
ECCLES NEW ROAD, SALFORD, M5 2XH. TEL. 061-736 5822.

I enclose cheque/P.O. payable to VOLEX ELECTRONICS
OR charge my ACCESS/BARCLAYCARD/VISA number:

NAME ______________________
ADDRESS ______________________

TTX2000S

VOLEX ELECTRONICS
A DIVISION OF VOLEX GROUP p.l.c.



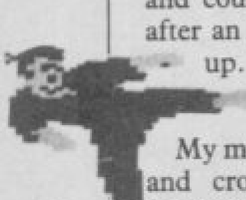
Popeye

ON November 25 I completed **Popeye.** Instead of kissing at the window you go inside and kiss. As you do this the roof lifts off. My score was 38,000.

Steven Davies,
Luton,
Cambridgeshire

Exploding Fist

I WAS amused to read that Owen Thomas — November issue — had scored 72,000 on **The Way of the Exploding Fist.** I have scored 1,000,100 and could have got more, but after an hour and a half I gave up.



My method is to step forward and crouch, waiting for my opponent to walk closer — then I punch him in the stomach. So now you can master Exploding Fist with just two fingers.

Jim Leeson,
Armley,
Leeds

Starquake

HERE ARE some more tips on **Starquake.**

First find an access card — without that the game is almost impossible to complete. Then find a teleport and travel to Quake. From there go up, turn right, and right again. Once you have reached the core, make a note of what objects you need and look for them. If you find an object which you don't need, take it for it can be exchanged for something else later.

If you come upon a metal bar across a screen it is possible to break through by dropping from a height onto it. Beware! Once through, it's not possible to go back.

On your travels you will notice little holes, large enough for Blob to fit through — these are short cuts to other places.

Save your access card until the end and then exchange it for the last object — you won't need it again.

S Hindle,
Padiham,
Lancs

I HAVE just completed **Starquake** in 34 minutes, 34 seconds with a score of 263,380 and 63 per cent.

Daniel Fletcher,
Crawley,
Sussex

cp software — SPECTRUM ★ AMSTRAD ★ COMMODORE 64 ★ QL

THE STRONGEST VERSIONS OF THE CLASSIC GAMES . . . from good retailers or by mail order

SUPERCHESS 3-5

GUARANTEED TO CONSISTENTLY BEAT ANY SPECTRUM OR COMMODORE 64 CHESS PROGRAM WHATSOEVER



★ **Save Game & Program to Microdrive**
★ On-screen clocks for tournament realism
★ Unique new way of setting hundreds of levels
★ All play within tournament time limits

FEATURES

★ **Unique new way of setting levels by time gives you total control with three different options:** tell the computer to match your response times, give it a time limit to play to, or give it an average time to make its moves. **And you can force it to play its best move found so far . . .**
★ Change sides and levels during play if required
★ Stop the game and change positions at any time
★ Set up particular games you want to try at any stage
★ Will recommend your best move when asked
★ Can be set to solve problems up to mate in four
★ Extensive library of opening moves
★ Option to determine your own display and piece colours
★ You can play blindfold chess
★ Absolutely suitable for beginners; just set the minimum move time
★ Fascinating self-play mode for you to study the game
★ TOTAL INFORMATION about the computer's thought processes, including: best line of play found so far, number of positions evaluated, depth of search, internal scoring system, display of previous moves if required, help menu if you should ever get stuck

DEDICATED TO EXCELLENCE IN THE GAME OF CHESS

STRONG – 100 times faster, 1500 times more intelligent
FAST – from 5 secs to the highest levels, all within tournament times
PENETRATING – at tournament levels it searches at least 7 moves deep, trying tens of thousands of lines of play
FRIENDLY – keeps you informed. Ideal for the expert or as a tutor for beginners
SAVES TO MICRODRIVE TO SAVE YOU TIME

£9.95 SPECTRUM

NEW — BRIDGE PLAYER 3

THE STRONGEST BRIDGE PLAYER YET



NOW play a CHALLENGING AND REALISTIC game of Bridge against the computer. Everything you could want in a Bridge program. Bidding and Play are both stronger than ever. The Computer can play as DEFENDER or DECLARER, generates random hands, and allows proper bidding in the ACOL system including the Stayman and Blackwood conventions. Then it TAKES YOU ON, playing both your opponents' hands. MORE FEATURES than ever before to give you a satisfying and enjoyable game of computer bridge, AND NOW you can save the program to MICRODRIVE.

FEATURES

★ Versatile bidding routines gives you a worthy opponent
★ Improve your game – Post-mortem facility allows rebidding and replaying of any hand
★ You can review the bidding or play to previous tricks while playing a hand
★ Input a hand or contracts of your choice to test yourself
★ Comprehensive ON SCREEN INFORMATION displays; – contract, tricks won so far, cards played in current and last trick, score
★ Option to bias the deal to give you and your "partner" more high card points if you prefer to play as declarer
★ At any time CLAIM THE REST OF THE TRICKS
★ RESTART the play of the cards
★ SAVE program to MICRODRIVE

A REALLY STRONG OPPONENT FOR A REALLY GOOD GAME OF BRIDGE

BRIDGE TUTORS
with full manual and set hands to teach you the game
Beginners £5.95 Advanced £5.95

SPECIAL OFFER
Bridge Player 3 and both tutors £19.95

£12.95 SPECTRUM
WITH EXTENSIVE MANUAL

NEW — ASTRONOMER II

THE UNIVERSE OF STARS IN YOUR OWN PLANETARIUM



Follow the progress of HALLEY'S COMET . . . **Study** the stars – past, present and future . . . **Understand** our solar system.

Astronomer II has everything in one powerful program . . . see the night sky of more than 1000 stars from any time or place on earth. Watch it plot the planets or draw in the constellations for you. See close-ups from the Star Atlas of 362 charts. Watch animated detail of our Solar System in motion and see it change with the months. Calculate everything needed for serious Astronomy to a high standard of accuracy. Produce your own tables. SAVE star and planet data to MICRODRIVE. Anything can be transferred to a standard printer AND you can save screens to tape and use your own special software routines for other printers.

Serious tool for the amateur astronomer – with excellent manual. SAVING and PRINTING OPTIONS give extra scope for in-depth study.

FEATURES

★ Comprehensive Manual with reference sections
★ On-screen demonstration for the beginner
★ Suitable for serious astronomical study
★ Night sky views from anywhere on earth
★ Works for past, present and future times
★ Displays over 1000 stars
★ Draws the constellations upon command
★ Plots the solar system on the night sky
★ Huge Star Atlas for detailed study
★ Shows the motion of the solar system
★ Illustrates and predicts oppositions and conjunctions, calculates position for the Sun, Moon, Planets, Comets and Asteroids, then plots them on the Night Sky or Star Chart
★ Saves star and planet positions to tape or microdrive
★ Displays the phases of the moon, the distance from earth of any object, Sidereal time and rising and setting times
★ Ephemeris section: generate and print your own tables via ZX interface One
★ Fully compatible with ZX printer and saves screens to tape for other printers

£9.95 SPECTRUM

PINBALL WIZARD

FOR COMMODORE 64, AMSTRAD AND ANY SPECTRUM

Superb, colourful fast-action graphics and sound give this game the feel of a real arcade pin-table. Realistic launch, flippers, bumpers, high-score, bonus scores and freeball features. Be a Wizard!

". . . I thought that a few minutes would suffice, and then found that a couple of hours had passed and I was still at it. Excellent . . . Pinball Wizard has it made"
CRASH MAGAZINE

"A brilliant idea that's totally absorbing and so addictive . . ."
YOUR SPECTRUM



ANY SPECTRUM	**£5.95**
COMMODORE 64	**£6.95**
AMSTRAD	**£8.95**

SUPERCODE III

FOR SPECTRUM

150 ROUTINES
100% MICRODRIVE COMPATIBLE

With 150 ROUTINES and 100% MICRODRIVE COMPATIBILITY this has to be the ultimate Spectrum toolkit. It gives you the power to do everything you always dreamed of with your Spectrum in your own BASIC or M/C programs. Born of the earlier Supercodes (which themselves received 5 star reviews), we can claim confidence that we have packed absolutely everything into this State of the Art development. With Interface I it transfers easily to microdrive and is recognised by Sinclair as fully compatible. Needs no special knowledge to operate and comes with a comprehensive manual.

FEATURES

★ **Unique Access Program lets you INDEX/LIST/TEST/TAILOR/RUN/RELOCATE/SAVE (to tape or microdrive with new or default name/VERIFY automatically**
★ **Options include EXAMPLE/REPEAT/JUMP/AGAIN/CONT/Tfr/DEMO/DIAGNOSIS/MOVE**
★ **100% menu-driven with on-screen training** ★ **Brilliant user manual**
★ **Routines guaranteed SHORTEST AND FASTEST for all applications**

ROUTINES
SUPER MICRODRIVE CATALOGUE · TRACE (with 256 preset program speeds) · SCREEN COMPRESS FOR ADVENTURES · ON ERROR GOTO · DOZENS OF RS232 AND MICRODRIVE ROUTINES · ON BREAK GOTO · THE SUPER RENUMBER (Does everything) · VARIABLE LIST · STRING SEARCH · STRING REPLACE · PAINT FILL · 5 SUPERB PROGRAMMABLE SOUND EFFECTS · RECORD + REPLAY SOUND/MUSIC · CONFUSE + UNCONFUSE LISTING · REMKILL · PROGRAM CONTRACT/EXPAND · PROGRAM ANALYSE · NUMBER – VAL COMPRESS · CHARACTER SWOP/SCRAMBLE/INSERT/REVERSE/ROTATE · WHOLE NEW CHARACTER SET (Sci-Fi) · FLASH + BRIGHT ON/OFF/SWOP · MEMORY FREE · PROGRAM LENGTH · BLOCK LINE + MEMORY ERASE/FILL/COPY · APPEND CURSOR · SCREEN SAVE/LOAD/SWOP/MERGE/FILL/SEARCH · HEX – DEC + DEC – HEX CONVERTERS · REMFILL · DATAFILL · GRID · INK + PAPER CHANGE · ATTRIBUTE SWOP/FILL/INVERT/RESET TAPE HEAD READER · PROGRAM PROTECT · PROGRAM BREAK-IN · HEADERLESS FILE CREATE · AUTORUN CODE · PROGRAM AS CODE · TAPE COPIER DEFEAT · MICRODRIVE DIAGNOSIS · FAST LOAD MICRODRIVE · + SURE SAVE MICRODRIVE · ADAPT TO MICRODRIVE · SURE CLOSE// · STRINGS + PROGRAM CASE CHANGE/SWOP · HEX LOADER · ANALYSE MEMORY · LINE ADDRESS · STARDRAW · FREE SCROLLER · 24 LINE PRINTING · LOWER SCREEN CLS · NEW UDG · PROGRAMMABLE BORDER EFFECTS · REMOVE COLOUR · RIPPLE + SHUTTER SCROLLS(L + R) · SCROLL PIXELS/CHARACTERS/ATTRIBUTES SINGLY OR JOINTLY, UP/DOWN/LEFT/RIGHT, WITH OR WITHOUT WRAP-AROUND, IN A USER DEFINED WINDOW OF ANY SIZE POSITIONED ANYWHERE ON THE SCREEN – SPRITE EFFECTS....and many more besides.

£12.95 SPECTRUM WITH EXTENSIVE MANUAL

OTHER PROGRAMS for SPECTRUM

Toolkit/Utility – (ALL AT £9.95)
FLOATING POINT FORTH (with editor)
EXTENDED BASIC (renumber, trace etc)
LOGO (turtle graphics)

Classic Games – (ALL AT £5.95)
Othello (Powerful)
Airbase Invader (Arcade)
Golfing World (best available)
Draughts (very strong program)
Backgammon (excellent)
Yatzee (well-known dice game)

NEW — FOR OTHER COMPUTERS

AMSTRAD	
Bridge Player	£9.95
Draughts	£8.95
Backgammon	£8.95
3-D Voice Chess	£12.95
COMMODORE	
Bridge Player II	£9.95
SINCLAIR QL	
Bridge Player II	£18.95

SPECIAL OFFER! . . . £1 off any two programs, £2 off any three, etc . . .

WANTED: Strong and original programs of an intelligent nature for any of the above computers. Top royalties paid by this reliable company.

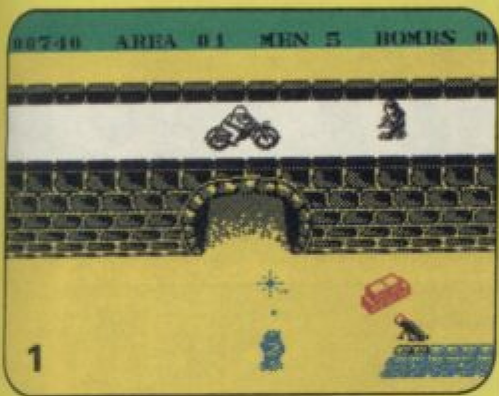
MAIL ORDER Simply state which programs and send cheque, postal order or Access/Visa number (with expiry date). Telephone for instant credit-card orders. Send SAE for catalogue and return postage for submitted programs.

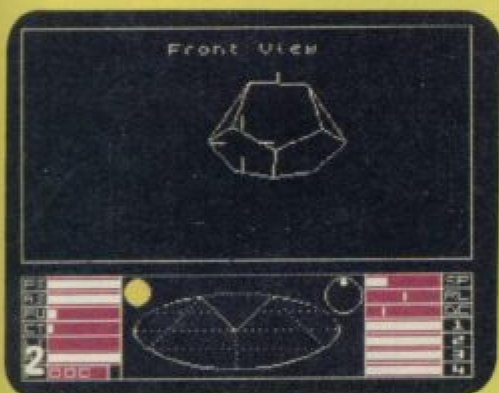
DELIVERY by soonest post. Post free in UK. Europe add 80p per program. All other places add £1 per program for surface mail or for Airmail add £2 for first program and £1 for each additional.

CP SOFTWARE 15 Despard Road, London N19 5NP. Telephone (01) 272 2918

GALLUP TOP 30

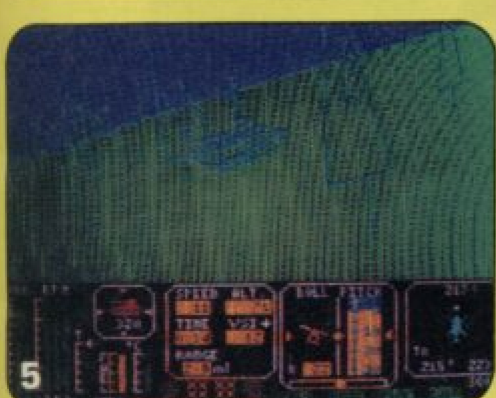
MONTH ENDING DEC 14











1	▲	COMMANDO	ELITE
2	◇	ELITE	FIREBIRD
3	▲	BACK TO SKOOL	MICROSPHERE
4	▲	YIE AR KUNG FU	IMAGINE
5	▲	TOMAHAWK	DIGITAL INTEGRATION
6	▲	INTERNATIONAL KARATE	SYSTEM 3
7	▲	SABOTEUR	DURELL
8	◇	DALEY THOMPSONS SUPER TEST	OCEAN
9	▲	BEACH HEAD 2	ACESS/US GOLD
10	▲	THEY SOLD A MILLION	HIT SQUAD
11	◇	WAY OF THE EXPLODING FIST	MELBOURNE HOUSE
12	◇	MONTY ON THE RUN	GREMLIN GRAPHICS
13	◇	IMPOSSIBLE MISSION	US GOLD
14	◇	FRANK BRUNO'S BOXING	ELITE
15	▲	GYROSCOPE	MELBOURNE HOUSE
16	◇	FINDERS KEEPERS	MASTERTRONIC
17	▲	ROBIN OF THE WOOD	ODIN
18	◇	FAIRLIGHT	THE EDGE
19	◇	FORMULA ONE SIMULATOR	MASTERTRONIC
20	◇	ACTION BIKER	MASTERTRONIC
21	▲	TAU CETI	CRL
22	▲	SWORDS AND SORCERY	PSS
23	◇	CRITICAL MASS	DURELL
24	◇	WORLD SERIES BASKETBALL	IMAGINE
25	▲	LORD OF THE RINGS	MELBOURNE HOUSE
26	▲	ARCADE HALL OF FAME	US GOLD
27	◇	BMX RACERS	MASTERTRONIC
28	▲	EMPIRE FIGHTS BACK	MASTERTRONIC
29	◇	GRAHAM GOOCH'S TEST CRICKET	AUDIOGENIC
30	▲	SPELLBOUND	MASTERTRONIC

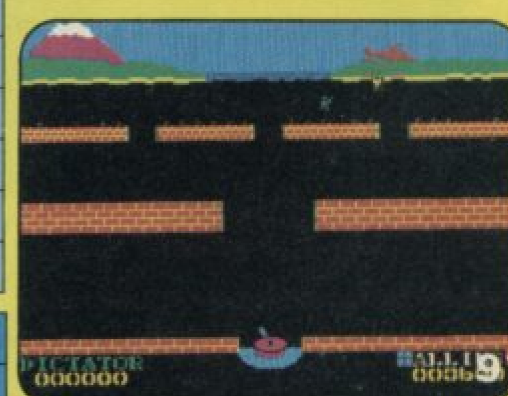
BUBBLING UNDER

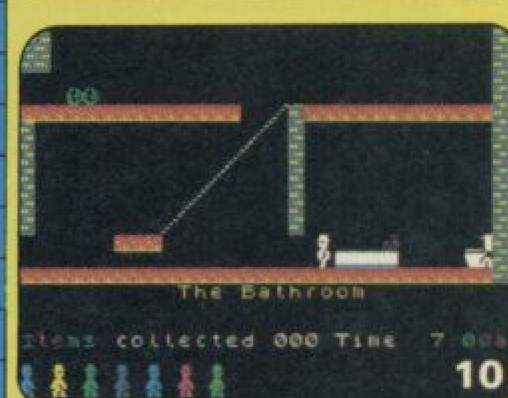
1985 THE DAY AFTER	MASTERTRONIC
CAVES OF DOOM	MASTERTRONIC
NEVERENDING STORY	OCEAN
THUNDERBIRDS	FIREBIRD
SOUL OF A ROBOT	MASTERTRONIC
SECRET DIARY OF ADRIAN MOLE	MOSAIC
GEOFF CAPES STRONGMAN	MARTECH
CHRISTMAS CARD	VIRGIN
CHIMERA	FIREBIRD
ROCKMAN	MASTERTRONIC













There's never been a better reason for looking forward to Winter!
WINTER GAMES
Screens from Commodore 64 version of game
COMMODORE 64/128
CASSETTE £9.95
DISK £14.95
Available Soon for Spectrum 48K & Amstrad
You've captured the gold in Summer Games™ and Summer Games II ™ — now it's on to the **Winter Games!** And what an incredible setting — a completely realistic winter wonderland featuring six action-packed events. You can compete against your friends or the computer.
First choose the country you want to represent. Then it's practice, training and learning a winning strategy for each event. Now the Opening Ceremony and the competition begins. Will you be the one who takes the gold at the Awards Ceremony?
The quest for the gold continues...And it's all here — the strategy, the challenge, the competition, the art and pageantry of Winter Games!
▶ Six Winter Events: Bobsled, Ski Jump, Figure Skating, Free-Style Skating, Hot Dog Aerials and the Biathlon
▶ Opening, Closing and Awards Ceremonies complete with National Anthems
▶ Compete Against the Computer or Your Friends and Family
▶ Unique Joystick Control — Requires Timing and Skill
▶ One to Eight Players
Titles available NOW!

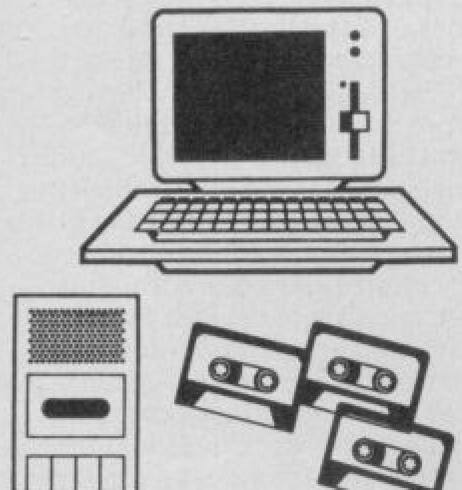
	AMSTRAD CASSETTE	AMSTRAD DISK	ATARI DISK	CBM 64 CASSETTE	CBM 64 DISK	SPECTRUM CASSETTE
Winter Games				★	★	★
Summer Games II				★	★	
Summer Games I			★	★	★	
Impossible Mission	★			★	★	★
Pitstop II				★	★	
Breakdance				★	★	

Spectrum versions £7.95
U.S. GOLD
All American Software
EPYX™
COMPUTER SOFTWARE

MAKE MONEY WITH YOUR MICRO!

you could earn over £50 per week-in your spare time-and you don't need any special programming skills...

Although you may at present only use your micro to play games, your computer is in fact a very sophisticated business machine which you could use to make yourself a very substantial full or part time income. Whatever your age opportunity exists. You may be a schoolboy looking for a school business project. You may have left school and be looking for a viable business idea. You may have a good job, but you would like to have an extra income. Whatever your circumstances, if you want to make some money, you can turn your micro into a money making machine.



FORGET ABOUT GAMES

Of course it is possible to make money as a games designer, but unless you understand machine code, and have lots of original ideas, you might as well leave games designing to the professionals. After all games design is a very competitive area, and there are lots of easier ways to make money with your computer.

HOW TO GET STARTED

We have compiled a special report which provides you with all the information you need to start a small part time business, which you can operate from home, using your micro. The report contains hundreds of business ideas which give you the possibility of earning thousands of pounds from your micro. Each idea is explained in detail, you need only the simplest of programming ability, if you can write simple basic programmes you can operate any of these ideas. (When we say simple basic programmes we mean very simple) some of the ideas require no programming but even the ideas that have the greatest potential are very simple and easy to operate.

ANY COMPUTER WILL DO!

Whatever your micro, Spectrum, Commodore, Electron, Amstrad etc. all the business ideas in this report are applicable to all home micros, no matter how humble or sophisticated.

TRY THIS SIMPLE TEST

When the report arrives select one idea that appeals to you.
Try out the idea for three months, read the directions carefully, start in a small way, remember to begin slowly.
At the end of this trial period calculate how much income you've made, if you're not satisfied with the results simply return the report and we will REFUND YOUR MONEY IN FULL.

You are free to use each idea, to establish your own part or full time business. All the ideas are viable business opportunities, which don't require any special expertise or skill, just a few hours of your time each week can bring you an income of £50 or more. Many of the ideas are capable of development to provide you with a very substantial income indeed, and each idea will grow and develop as you operate the business. The business you start will be totally your own and can be started with just one micro, and perhaps £5 or £10 start up expenses.

WHAT ELSE WILL YOU NEED

You will need to be prepared to work to make your business grow, each idea requires time and effort, and like any one who runs a business you will need to take advantage of the money making opportunities which develop. You will need to adapt to the challenges, and stick at your project.
A telephone would be helpful, and a computer printer would be a great asset (if you do not own a printer don't worry, you can buy one from your first profits).
You won't have to wait, most of the projects can be started within 14 days.

EASY TO FOLLOW

Our special report is easy to follow, all the ideas provided are honest straight forward methods of making money from your micro. To prove that you can make money from your micro we offer a no quibble money back guarantee. Keep the report for three months, try one or more of the ideas, and if you don't make any money, just return the report. We'll send you a full refund, within three working days, we won't quibble, we'll just return your money.
We are not trying to take advantage of you, we want to present you in a fair way with the information you need to start making money from your micro.

To: P.W. PROMOTIONS
Please send me your report 'MAKING MONEY FROM YOUR MICRO'. I enclose £9·95 in full payment.

Name ....

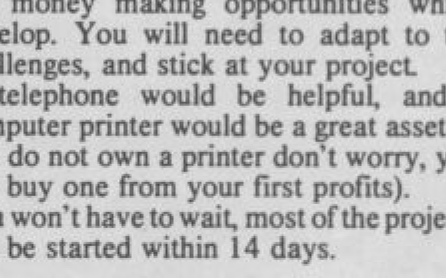
Address ....

.... Post Code ....

I understand I am free to use the ideas in this report to start my own full or part time business or business project.

Signed .... Date ....

Postal Address: P.W. PROMOTIONS, P.O. BOX 21, MANCHESTER M16 8EA.





Communication breakdown?

Andrew Hewson has a butchers at buffers and tackles some teasers

REMEMBER THE ZX80? Those were the days, when a computer was unable to execute a program and display it on the screen simultaneously. While a program was running, the screen went blank. My, oh my.

The Spectrum, on the other hand, stops whatever it is doing 50 times a second in order to transmit information from the display file on to the TV screen. This happens so quickly that you're not even aware it's taking place. The display file is a good example of a buffer in action, and this month we're going to look at another buffer, and how it can be used.

This is prompted by an anguished plea from Ulrich Munch, of Copenhagen.

You keep putting routines into the printer buffer at address 23296, but you have never explained what the printer buffer is.

Well, a good point, Ulrich. The printer buffer is the area of RAM from address 23296 to 23551 inclusive, which is used by the Spectrum to store characters which are due to be LPRINTed on a printer.

Before explaining the printer system, I shall tackle the word 'buffer' because it is a jargon word which has developed a particular meaning in the world of computing.

Very often a complete computer system consists of devices connected together and which pass information to and from one another. Typical devices might include the computer itself, discs and disc drives for storing data, tapes and tape drives, a printer, a link to another computer, and a display screen or screens. Communication between any pair of devices may be either one way or, more generally, two way.

That communication is more difficult than it might appear because most devices are only capable of doing one job at a time. A printer which prints out character by character, for example, can be either printing the current character or waiting for the next.

While it is printing the current character it is not 'listening' for the next one, so that the device which is sending the characters to the printer — such as the computer — has to wait until the printer is ready. The printer has to have a way of saying to the computer 'Wait, I'm busy' when it is printing a character or 'OK, go ahead, I'm free' when it is ready for the next.

The problem with the character-by-character approach is that the device which is the faster of the pair — usually the computer — spends most of its time waiting for the other device to give the go-ahead. It is as if a memo dictated by a busy executive were typed letter-by-letter by a secretary as it was spoken instead of being scribbled down in shorthand for subsequent typing as a complete memo.

The role of a 'buffer' in computing is similar to the role of the shorthand pad in the office. It is an area of memory which is used as temporary storage for information that is on its way to another device.

In the case of our computer-to-printer example a buffer might consist of a 2K or RAM — enough for over 2,000 characters, or about a page of typescript. If that amount of typescript were to be printed the computer could fill the buffer very quickly, probably in less than a second. Provided that there was some extra hardware which then doled out the characters one at a time to the printer, the computer could get on with some other task while the typescript was being printed, which might take a minute or so. Clearly it is

'The role of a buffer is similar to the role of a shorthand pad in an office'

Bilingual Basic

WHO SAID Sinclair Users are ordinary? My postbag each month never fails to supply news of at least one novel software application of a Sinclair computer. Take James O'Connell of County Roscommon in Eire. He tells me that he trains young missionaries in the use of Basic with the aid of a Spectrum. He writes: **Can you provide me with a rough idea of how to write a program for translating words from English into French?**

James supplied a flow diagram of the sort of program he requires which he claims to have obtained from Bug-Byte four years ago. The program listed in figure one is a simple version of his requirement.

```
10  DATA 3
20  DATA "HORSE","LE CHEVAL","FACE","LE VISAGE","HOUSE","LA MAISON"
30  READ N
40  LET I = 1 + INT ( RND * N )
50  FOR J = 1 TO I
60  READ X$,Y$
70  NEXT J
80  PRINT "PLEASE TRANSLATE THE WORD "
90  PRINT X$
100 INPUT A$
110 IF A$ = Y$ THEN GOTO 200
120 PRINT "SORRY, YOU ARE WRONG.","THE CORRECT TRANSLATION OF"
130 PRINT X$;
140 PRINT " IS "
150 PRINT Y$
160 STOP
200 PRINT "CORRECT"
210 STOP
```

much more efficient to have the computer free for another task than to have it tied up merely because a slow printer is in use.

This then is the role of a buffer as a temporary storage area. In the case of the Spectrum printer, a buffer is required not so much to speed the communication process from computer to printer, but more because Sinclair Basic is an interpreted language which has no way of 'knowing' what is coming next. That leads to complications when a line-by-line printer is used.

The following pair of Basic lines, for example, is perfectly legal:

```
10 LPRINT "Print all this";
20 LPRINT "on one line"
```

The original ZX printer, which was designed to operate with the Spectrum, prints a complete line at a time and then winds the paper forward ready for the next line. The Spectrum supports that approach by assembling all the characters which make up the line to be printed in the printer buffer. Only when the entire line is complete does it transmit the whole lot from the buffer to the printer.

In the case of the two line Basic example, the semi-colon at the end of line 10 prevents the transmission of the contents of the buffer. Instead, the items in line 20 are also put into the buffer and then transmission occurs.

A line on the Spectrum printer consists of 32 characters, just as a line on the TV display consists of 32 characters. You'll notice that the printer buffer consists of 256 bytes of RAM — eight bytes per character — just as a single line of characters on the screen requires 256 bytes of RAM. You can have some fun LPRINTing to the printer buffer and then using the PEEK command to pick up the data and POKE it to the screen, but remember to take account of the complicated interlacing procedure of the Spectrum screen.

● *Please address problems and queries to Andrew Hewson, Helpline, Graham Close, Blewsbury, Oxfordshire.*

Climatic interference

In my house, when I press Load, Save, Merge or Verify small coloured squares begin to spread quickly over the screen from left to right and the computer sometimes resets to the copyright message. Even the Sinclair workshop could not believe this. My house is on the sea where humidity reaches 100 per cent. About 20 metres away there is a big electricity room which contains convertors and a distribution system.

Adel Fathy el Sayed, Salmiya, Kuwait

I don't think humidity will have much effect although I have no experience of using a computer in such conditions.

Interference from an electricity sub-station sounds all too familiar a source of problems. It can effect a computer by causing variations in the power supply and the only answer is to obtain a specially stabilised power source. From the description, however, I don't think that is the problem in this case.

My guess would be that the leads between computer and tape recorder are picking up radiated interference, in much the same way that a passing motorbike can interfere with a radio. The solution is to wrap the leads in a conducting material — aluminium foil will do if you can't find anything more conventional — and to earth this protective screen which you have created, by running a wire from it to an earthed object, even a copper water supply pipe will do.

Has anyone else abroad experienced similar problems?

The System Variables

IN SEVERAL respects the Spectrum Plus is superior to its predecessor. There is less fumbling with multiple keystrokes and the sound is a little better. In one significant area Sinclair threw the baby out with the bath water. The company replaced the original ZX Spectrum Basic Programming manual with a less detailed and less informative version.

The original manual was not a model of clarity and in trying to provide useful information for both absolute beginners and experienced programmers it was attempting the impossible. Nonetheless, it did contain some useful information which is noticeably absent from its replacement. In particular it described the System Variables in reasonable detail.

Hence I have decided to devote a part of this column each month to the more interesting of the system variables. By 'more interesting' I mean those which can be POKEd in Basic to create an immediate effect. As I am always open to useful suggestions from readers, the order in which I shall tackle the variables will depend on readers' requests. So if you want to hear about anything in particular, please write in.

So what are system variables? The term refers to the area in the Spectrum RAM from 23552 through to 23733 inclusive. You might note that this is just after the printer buffer, described elsewhere this month, which ends at address 23551.

The system variables area is used to store all sorts of useful bits and pieces of information, such as the character of the last key pressed, the current PRINTing position on the screen, the current Basic line number and the current border colour. Each piece of information has its own storage location in the system variables area so the ROM — and the owner of the original Spectrum manual — always knows where to look.

To start we'll have a look at three easy ones — REPDEL at address 23561, REPPER at address 23562 and PIP at address 23609. The funny names are the six-letter mnemonics assigned to them by the programmers who wrote the code in the Spectrum ROM.

REPDEL is the time, in fiftieths of a second, which a key must be held down before it repeats. If you have a look at the value of REPDEL using the following

PRINT PEEK 23561

you will find that it is set to 35. Hence the first repeat of a key occurs 35/50ths, or 7/10ths of a second after it is first pressed.

Check that by pressing and holding any key. The appropriate character appears over and over again. The short delay is 7/10ths of a second and the length of the delay is determined by the value of REPDEL as stored at address 23561.

Now POKE in a much larger value — although not larger than 255. Try 200, for example:

POKE 23561, 200

The delay will now last for 200/50, or four seconds. Check this by pressing and holding any key again. Notice how the delay is very much longer before the repeat occurs?

Did you notice also that once the first repeat occurs, second and subsequent repeats come in rapid succession, just as before? The time between second and subsequent repeats is controlled by the REPPER system variable stored at address 23562. The initial value is five, as you can discover by entering

PRINT PEEK 23562

Repeats thus ought to occur every 5/50ths, or every tenth of a second. In fact, the time taken is significantly longer than that because the computer takes longer than a tenth of a second to process the keyboard entry.

To increase the delay between second and subsequent repeats, POKE in a new value such as 100

POKE 23562, 100

Now when you press a key the response will be well and truly pedestrian.

The final system variable, PIP at address 23609, also controls the keyboard reading system but this time it effects the sound made when a key press is registered. Try POKEing a variety of values between 0 and 255 inclusive to hear the range of effects. I prefer a value of about 100.

A SPECIAL MESSAGE TO ALL THOSE PEOPLE WHO HAD A SINCLAIR COMPUTER FOR CHRISTMAS

(and those who have had one for years)



Looking for great gizmos for your new Spectrum or QL? There's one place you will find everything: THE MICROFAIR.

If it's new it will be on show. If it's original you'll find it on sale. If you need advice you only have to ask the exhibitors. If you want to meet thousands of enthusiasts, just come along and enjoy yourself.

There's everything for Sinclair Computers. Hardware, Software, Books, User Clubs, Programming Aids, Games, many at special 'show' prices — there's even a bring and buy sale.

For a fun day out and a chance to see and buy everything new and exciting . . . you won't beat the MICROFAIR.

THE NEW YEAR MICROFAIR

1st FEBRUARY 1986
AT THE HORTICULTURAL HALL
GREYCOAT STREET/ELVERTON STREET
LONDON SW1. 10am-6pm.
ADMISSION: £1.75 (ADULTS)
£1.25 (KIDS UNDER 14 YRS)

SEND NOW FOR REDUCED PRICE ADVANCE TICKETS

Send to Mike Johnston (Organiser), Dept S.U.
ZX MICROFAIRS, 71 Park Lane, London N17 0HG.

Please send me ______ advance tickets (Adults @ £1.25)

Please send me ______ advance tickets (Child under 14 @ £1.00)

Name: ______________________

Address: ______________________

____

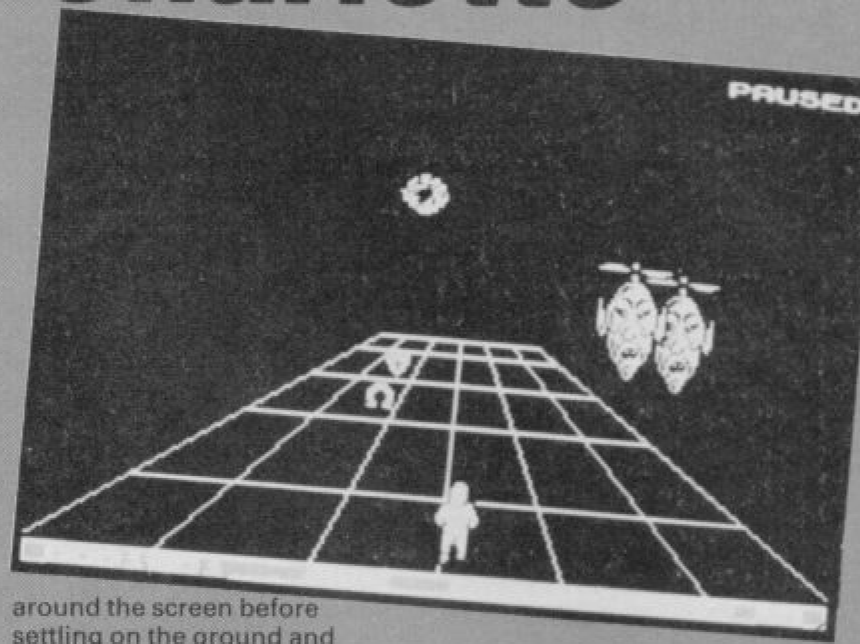
____

18th ZX MICROFAIR

Please include a stamped, self-addressed envelope and make cheques/POs payable to ZX MICROFAIR.

PREVIEW Twister — Mother of Charlotte





TWISTER, the great serpent, sleeps at the centre of nightmare, wrapped around a spiky core of evil and occasionally rousing to spit venom and corruption at the demons which minister to her needs. She's the target of this outlandish, extravagant shoot-em-up from System 3, packed full of grotesque demons and mystic symbols.

The action is spread across five levels. On the first you must hop from stepping stone to stepping stone collecting a set of four playing-card symbols, the descendants of the ancient Tarot. As on all other levels, there are also piles of ammunition, psychic shields to increase your energy, and bonus points to be had.

Green phantoms materialise in a puff of smoke — fat blobs of near-humanity, satanic goats and the evil Charlotte herself, a thinly-clad harpy of voluptuous proportions — and you must shoot them down as you leap.

Apart from the ever-dangerous demons, the horseshoe symbol must always be avoided as it causes you to lose one of the objects you have collected — so as the stones unfold you must pick your route carefully to have any hope of winning.

That applies to the second level, which is probably the most difficult in absolute terms. There's a floor and a ceiling, and you flip your character from one to the other as you play, depending on where the monsters are. Generally you must shoot down three monsters before a symbol will appear, and on this level the symbols spell out the name 'Twister.'

Also appearing is a devil on the side who spits out a ball of malevolent gob, which bounces around the screen before settling on the ground and turning into a blue worm. According to System 3 overlord Mark Cale the finished version will have the worm leaping at you if you get too close.

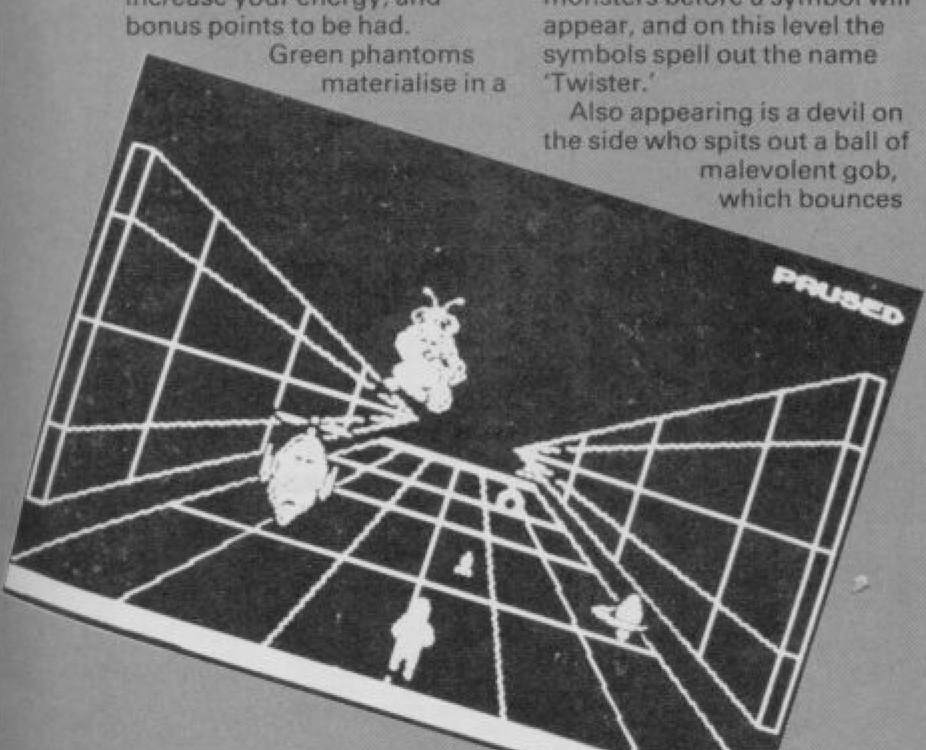
On then to level three, a straight race down the corridor, hindered by spinning balls and a hookah-smoking creature. These will have different modes of attack on the finished version, the doped-up caterpillar behaving in a laid-back fashion while the ball homes in on you with vicious purpose. Although it's easier to negotiate, the third level is made more difficult by the number of symbols to collect — all 12 signs of the zodiac.

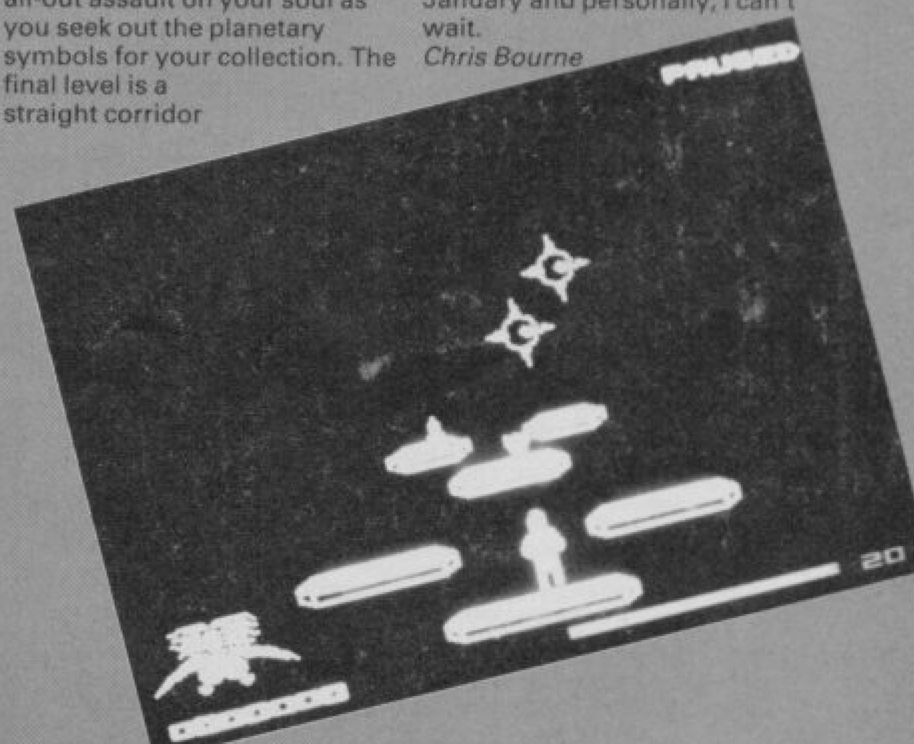
Level four takes place in the atmosphere during an electrical storm. Forked lightning crackles and flashes around you and the demons really gear up for an all-out assault on your soul as you seek out the planetary symbols for your collection. The final level is a straight corridor again, littered with parts of Twister's body — in human form.

Having completed all that — and a wearying, soul-shattering experience it is too — you will have constructed a psychic bomb to destroy Twister utterly. There she sits on the final screen, coiled around a spiky ball, a lovely piece of animation, and you have to deliver the bomb into her gaping jaws.

Then it's round once more from the beginning — but with more monsters, less energy and more trouble. Twister's a tremendously atmospheric piece of design, an addictive game, and very flashily programmed with luminously glowing monsters and fireworks behind the hi-score table. According to Mark Cale, it should be out at the end of January and personally, I can't wait.

Chris Bourne





BETA BASIC 3.0

SINCLAIR USER, JAN. 85 (ABOUT RELEASE 1.8): "HAS ESTABLISHED ITSELF AS THE STANDARD EXTENDED BASIC FOR THE SPECTRUM......TURNS SINCLAIR BASIC FROM A GOOD VERSION OF THE LANGUAGE TO A FANTASTIC ONE..." NOW, WITH RELEASE 3.0, BETA BASIC BECOMES PROBABLY THE MOST POWERFUL BASIC AVAILABLE ON ANY 8-BIT MICRO!

- PROCEDURES - a very full implementation that lets you extend Basic easily. With parameter passing by value or by reference (including arrays), LOCAL variables, recursion, DEFAULT parameter values, and the ability to handle parameter LISTS of any length. No PROC keyword is needed; e.g. you can use things like: swop a,b or draw_box 10,20,5 or addup b(),sum.
- GRAPHICS - up to 128 WINDOWS, each with its own character size (giving 1-64 chars/line!) and attributes. ROLL and SCROLL any part of the screen by any number of pixels in any direction! Use GET to store parts of the screen, then put them back anywhere at different magnifications. Fast FILL, ALTER attributes, PLOT strings, DRAW TO a point, change scale and origin.
- TOOLKIT features: Renumber with block move or copy; block DELETE, search and/or change (e.g. ALTER apples TO a). 36 User-defined keys. List the variables, list a procedure, list DEF KEYs.
- EDITOR - lets you move the cursor around the screen 10 times faster! And you can move the cursor up and down within edited lines. AUTO, EDIT, JOIN and SPLIT commands.
- LISTINGS with optional automatic indentation of loops, IF, procedures etc. Works on existing programs e.g. you can choose to list:

```
  10 FOR n=1 TO 10: PRINT n: NEXT n
as:   10 FOR n=1 TO 10
           PRINT n
         NEXT n
```

- KEYWORDS can all be entered by typing them in full, or by the "single entry" method, or both in the same line; e.g. the line: 10print"hello":if x=1 THEN goto 100 will be recognised and listed normally.
- Upgrades to Release 1.8 customers: If you bought direct from us, there is no need to return your cassette - just quote the (approximate) original purchase date with your order; otherwise return your cassette and name your supplier. The upgrade price of £6.95 (£7.50 overseas) includes a new manual.
- ARRAY and string handling features include fast INSTRING (100,000 chars/sec) and INARRAY search functions. You can JOIN arrays together, delete, transfer and insert sections, change dimensions without data loss. LENGTH function gives dimensions. Ultra-fast array SORT - e.g. a$(500,30) will sort in about 3 seconds!
- MICRODRIVE commands let you use simple forms, or exactly the same commands you normally use for tape - just enter DEFAULT =m1 or m2. Some possible Microdrive commands: SAVE "name", ERASE "name", LOAD 1, "name", SAVE 10 TO 100; "part prog". SAVE a "slicer" or just the variables. MOVE programs, CODE, arrays. MERGE auto-running programs. End-Of- File function.
- OTHER FEATURES, new or improved, are too many to describe: DO - LOOP structure with WHILE, UNTIL and EXIT IF; BREAK, CLEAR, CLOCK, CONTROL CODES, EDIT variables, ELSE, GET, KEYIN (programs can write themselves!) multi-LET, (L)LIST a "slicer", ON (works with line nos, procs, etc.) ON ERROR, OVER 2, POKE strings, POP, READ LINE, TRACE, USING, DPOKE. Faster GOTOs, GOSUBs and FOR-NEXT loops.
- 26 FUNCTIONS: AND, OR, XOR, DEC, HEX$, BIN$; fast SINE, COSE, RNDM; CHAR$, NUMBER, DPEEK, EOF, FILLED, INARRAY, INSTRING, ITEM LENGTH, MEMORY$, MEM, MOD, SCRN$, SHIFT$, STRING$, TIME$, USING$.
- Spectrum Basic compatible - you can run existing programs. Transferable to Microdrive. Syntax check on entry. Extra error messages. Compatible with most printer interfaces (please specify). Wafadrive version available.
- Comprehensive A5-size manual. More than 80 pages, with many examples.
- To show you the power of Beta Basic's procedures, we include a FREE TURTLE GRAPHICS package!
- Release 1.8 remains available, at a lower price of £8.95 (£9.50 overseas). You can upgrade later to Release 3.0 for £6.95 (£7.50 overseas).
- TRANSFORM your Spectrum with BETA BASIC 3.0 for just £14.95 inclusive! (£15.50 overseas).

(TICK AS APPROPRIATE.) PLEASE SEND ME:
[ ] BETA BASIC 3.0. PAYMENT OF £14.95 (OR £15.50 OVERSEAS) IS ENCLOSED.
[ ] BETA BASIC 3.0 UPGRADE. PAYMENT OF £6.95 (£7.50) IS ENCLOSED.
[ ] BETA BASIC 1.8. PAYMENT OF £8.95 (£9.50) IS ENCLOSED.
[ ] MORE INFORMATION ON ________. I HAVE/DO NOT HAVE RELEASE 1.8 ALREADY.
A STAMPED ADDRESSED ENVELOPE IS ENCLOSED.

BETA SOFT
92 OXFORD RD.
MOSELEY
BIRMINGHAM
B13 9SQ

Access

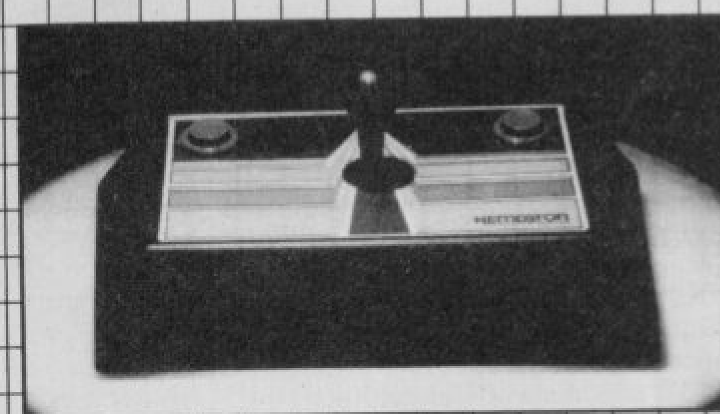
KEMPSTON MICRO ELECTRONICS LTD



JOYSTICK INTERFACE, TRI-STATE + PRO JOYSTICK INTERFACES



FORMULA 1+2 JOYSTICKS



SCOREBOARD JOYSTICK

ORDER FORM

Available direct from Kempston Micro Electronics Fast mail order service Please send me the following

☐ Formula One Joystick	£16.95	☐ Joystick Interface	£9.95
☐ Formula Two Joystick	£11.95	☐ TRI-STATE Joystick Interface	£12.95
☐ SCOREBOARD Joystick	£19.95	☐ Pro Joystick Interface	£16.95

SPECIAL COMBINATION OFFER

☐ Formula One Joystick + Joystick Interface	£19.95
☐ Formula Two Joystick + Joystick Interface	£17.50

Name

Address

All prices include VAT and Postage and Packing. Overseas order add £4.00 pp. Please allow up to 14 days for delivery

I enclose a cheque for £

Access Barclaycard

Kempston Micro Electronics Ltd. 1-3 Singer Way Kempston Bedford
Tel (0234) 856633

EIDERSOFT QL SYSTEMS

ZAPPER £10.95

8 LEVELS OF SUPERSMOOTH MULTICOLOUR ALIENS PLUS EAGLE DEFENDER STYLE ACTION. ALL USUAL FEATURES TV/MON. JOYSTICK.

BJ — THE RETURN £12.95

QL CAVERNS Z. THE EXCITING SEQUEL TO THE NO. 1 QL GAME.

ARCHIVER £18.95

INVOICING, MAILING, STOCK CONTROL, APPOINTMENTS PROGRAMES FOR PSION ARCHIVE THAT YOU CAN ALTER TO SUIT YOUR BUSINESS RECOMMENDED

SPOOK £12.95

SUPER FULL MACHINE CODE ARCADE QUALITY MUNCHER GAME MANY LEVELS OF ACTION

JOYSTICKS QSHOT II QL £12.95
SURESHOT £19.95 ALL PROGRAMES ARE AVAILABLE ON DISK + LEADS, DISK DRIVES AND ALL ACCESORIES.

NAME: ....

ADDRESS: ....

PLEASE SEND: .... COPIES OF BJ./ZAPPER ARCHIVER/SPOOK QSHOT/SURESHOT QL
SAE FOR MORE INFORMATION

ADD £1.00 POST & PACKING PER ORDER. £1.50 JOYSTICKS. MAKE CHEQUES & P.O.'S PAYABLE TO EIDERSOFT AT:

THE OFFICE HALL FARM, NORTH OCKENDON, UPMINSTER, ESSEX RM14 3QH.
Tel: 0780 851099 ALL DELIVERIES WITHIN 10 DAYS OR MONEY REFUNDED

GAMES

A doctor reveals that playing too many computer games turns you into a raving psychopath. Well does it? Are you crazy? Wendie Pearson tells you the symptoms

HAVE YOU ever read headlines such as 'Psychiatrist warns on computer addiction' or 'Video games drama may take its toll'?

Too much time spent zapping aliens, or even programming, may be bad for you. Is there really a dark side to computer games? Should arcade games carry a health warning? Read on . . .

Dr Prem Mizra — a consultant pyschiatrist at Duke Street Hospital, Glasgow — has treated teenagers and adults suffering from computer addiction. "They became badly disturbed after computers took over their lives," says Mizra.

His first patients were all teenage boys. They suffered nightmares, illusions, excessive daydreaming and exhaustion from computer addiction.

"One boy became psychotic — in other words he started to lose control of his mind, but he is nearly cured now, having reduced the amount of time he spends on the computer," says Mizra.

He finds that some teenagers spend up to 12 hours a day programming and playing games. Computers are the most important thing in their lives, and they imagine that computers have minds of their own and can talk to them.

Dr Mizra stresses that each victim of this syndrome is male, of above average intelligence, sociable and articulate. Each one enjoys programming as well as playing games, and none have any prior history of antisocial behaviour. Contrary to popular belief, the problem is caused by use of the computer and not by some imbalance in somebody's head.

"The dependence on the computer isn't hard to break, but the time spent on it must be reduced," he says. "For some people, two or three hours a day is recommended while others might cope with four or five."

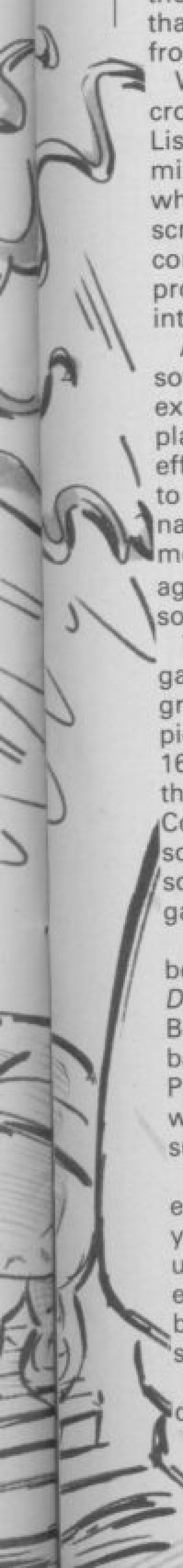
"Frustrated, thwarted and angry people find the games help them to be violent in a safe sort of way," says psychologist, James Hemming

Dr Mizra does not recommend that parents should suddenly remove a computer as that can be very traumatic, but he believes that computer time should be reduced for anyone who has become too dependent.

"Parents don't realise that once



'MAD?'



they've gone to sleep, their son has turned his light back on and started working on his computer. They are largely unaware of what is going on," he says.

If you suffer symptoms such as those described by Dr Mizra, it seems that you can expect little sympathy from those in authority.

We approached Mary Whitehouse's crowd — the National Viewers & Listeners Association — bearing in mind their apparent concern about what is shown on the nation's TV screens. But it appears that while they concern themselves with TV programmes, they aren't remotely interested in computer programs.

Although aggressive games and software nasties aren't seen by the experts as an immediate threat to players' mental health, the cumulative effects over several years are thought to equal the effects of watching video nasties over an equal number of months, in that a lack of control over aggressive impulses is experienced by some viewers.

The saving grace of computer games seems to be that the quality of graphics is nowhere near the sort of picture you receive on your TV. One 16-year-old games player says, "With the introduction of machines such as Commodore's Amiga, with graphics so life-like that they aren't far off the sort of thing you get on TV, violence in games might be more of a problem."

In the States a pressure group has been formed to campaign against *Dungeons & Dragons* games. BAD — Bothered about *Dungeons & Dragons*, based in Virginia, was founded by Pat Pulling, a mother who feels the game was responsible for her child's suicide.

Critics over there feel that the game encourages suicide by impressionable young people as the only way to ultimately win the game, and a row erupted this year over two Denver boys who killed themselves in a suicide pact in 1984.

A police detective investigating their deaths said he thought their involvement in *Dungeons & Dragons* led to their actions. The officer then retracted his statement when a games manufacturer threatened him with legal action.

Keith Ollett, of the organisation Play for Life, is cautious about the story, but says: "The suicide element, if true, is tragic and reminds me of the copycat killings linked to TV."

The organisation, based in Crowborough, East Sussex, encourages more creative and constructive play for children. "Whether you approve of computer play or not, it's an important part of children's playing experience so there's no point in saying it's a bad thing. But the violence in games is very disturbing because it trivialises and personalises death. It's you that gets killed in the game, so it devalues the whole concept of life. I'm not sure that playing **Space Invaders** turns you into a mindless psychopath, but I do feel that if you concentrate on aggressive, assertive play, you limit your choice of responses in everyday life. And play is rehearsal for life."

Dr Mizra's first patients were all teenage boys. They suffered nightmares, illusions, excessive daydreaming and exhaustion from computer addiction

Ollett is concerned that parents often don't know what their children are playing with. Parents may think a child is doing homework on the computer, while homework may be losing out to games.

London-based psychologist James Hemming also gives his views on computer games. "I'm all in favour of children playing with computers," he says, "but I think the computer games revolution is not entirely a good thing. The time children spend pressing buttons could be spent making or doing things. Computer games can become too dominant in a child's life unlike games like *Ludo* which can be put away in a cupboard.

"I would like to see computers deal with more real and practical issues than just blowing things out of the sky. It's perpetual fantasy — it isn't realistic.

"Frustrated, thwarted and angry people find the games help them to be violent in a safe sort of way — so the games serve as a track for unexpressed violence. However, the problem is that people can regard violence as just a plaything; that is the problem with violent imagery. It trivialises violence — and violence isn't trivial.

"These games may make you less sensitive about violence, and eventually the violence becomes acceptable. Playing with violence makes it look as though it doesn't matter, and if cruelty is an everyday affair, people stop observing it and valuing it correctly."

Hemming says some games give children an unreal sense of power which distorts their viewpoint, quite aside from the fact that computing is a spectator sport.

He also has some interesting points about the essentially male nature of game playing. "The male has the need to demonstrate power and if he can make tremendous things happen just by pressing a button then he is given a fantasy of power.

"That sort of activity is particularly appealing to the less successful kind of males you find in amusement arcades. That kind of man is given an illusion of power through huge numbers which appear on the screen, loud noises and bright lights, which make him look important. But anyone desperate to show his superiority is actually showing his weakness."

Nightmares are another problem associated with computer games. Hemming comments: "Children of imaginative age can suffer nightmares — there is the likelihood that these games turn on the horror in the

imagination which will result in nightmares."

Misgivings about computer games aren't new, however. Back in 1983 the US Surgeon General — better known for putting health warnings on cigarette packs — warned of the dangers of excessive exposure to video and computer games, and in countries such as Singapore and Malaysia, public use of **Space Invader** games is banned by law. However, at that time, Dr Robert Olton, manager of behavioural research at Atari's video games division, played down the warnings, although he did admit that "certain children do develop a very intense relationship with the screen," whatever that means.

It seems that people who play in the

> **"You make a habit of not dealing with people, saying, 'Who cares about people when I have my Spectrum upstairs?' "**

seclusion of their bedrooms for many hours each day are at the most risk of computer dependency. Friendships, social life and homework are likely to suffer from excessive computer use, and anyone who already has an obsessional personality could come a cropper.

Neil Wilkinson, 16, says his schoolwork has suffered drastically. "I never have time to do any because I'm too busy poking at a keyboard," he says. "I had a few hobbies before I started and I have even less now."

Neil doesn't go along with the idea that violent games can desensitise you, although he admits to going a little loopy not long ago. "You can become obsessed. You start thinking that everything you do in life is like a computer program. For instance, if I was on a bus that was going too slowly, I started thinking I could change the variable in the program to make it go faster. Honest! And other people do worry about you, that you're in your room playing on computers all the time.

"Your social activity does suffer and this might affect you later on, but you don't realise this at the time. You may have few friends, and say you don't mind about that, but you do really. You make a habit of not dealing with people, saying 'Who cares about people when I have my Spectrum upstairs?'."

Kieran Kelsdon, 14-year-old Atari player, has also seen his hobbies diminish since he discovered the



micro. He reckons that some of his mates have become quite boring since they started playing games. "The games are all they talk about," he says.

On the subject of aggression in games, he says: "They don't incite me to go out with a high powered laser and kill people. If the graphics were really realistic, it might affect some people, but right now they aren't that advanced. When you zap something on a screen you don't think of it in terms of killing."

Yie Ar Kung Fu

YOU'VE BEEN given a stiff neck in the **Way of the Exploding Fist,** been crippled by **Fighting Warrior** and slaughtered by **Gladiator.** Now you can get your own back and kick the living daylights out of **Yie Ar Kung Fu.**

You play Oolong, a young exponent in the art of kung fu, trying to attain the title of grandmaster. To do that you've got to fight eight honourable opponents, masters in their own right. Your aim is to beat them at their own game, so you'll have to jump higher, kick faster and punch harder.

There are 16 moves ranging from leaping punches, ankle kicks, face punches and roundhouse kicks. The joystick and fire button creates the attack moves and the space bar alternates between punches and kicks. That's a lot to remember, but it's easy to get the hang of and even if you do forget the moves, you'll still have no problems.

You and your opponent each have eight hit credits in a grid at the top of the screen. You lose one of those every time a blow connects. When there are none left, you flop onto your back waggling your legs in the air — playing dead, Japanese style.

If you score a telling blow — a blue star appears as you connect; a red one appears if you are hit. You have five lives and a bonus life for every 20,000 points.

The game starts with the two fighters facing each other. A few authentic-sounding bleeps of oriental music sets the atmosphere, a mountain backdrop sets the scene.

Suddenly your opponent launches himself horizontally through the air towards you, at head hight. He is Buchu, a flabby giant and master in the art of high flying. You don't need a star to tell you if you've been hit by that first blistering attack — it'll probably knock you sideways. Wait for the right moment and then duck. As he's so much larger, you must get in close to fight, otherwise you don't stand a chance.

With Buchu stranded on his back you move on to meet Star, masteress of the shuriken, the deadly star-shaped weapon adopted by the ninjas. The women seem harder to overcome in **Yie Ar Kung Fu** than the men — they are petite and should carry a Government health warning.

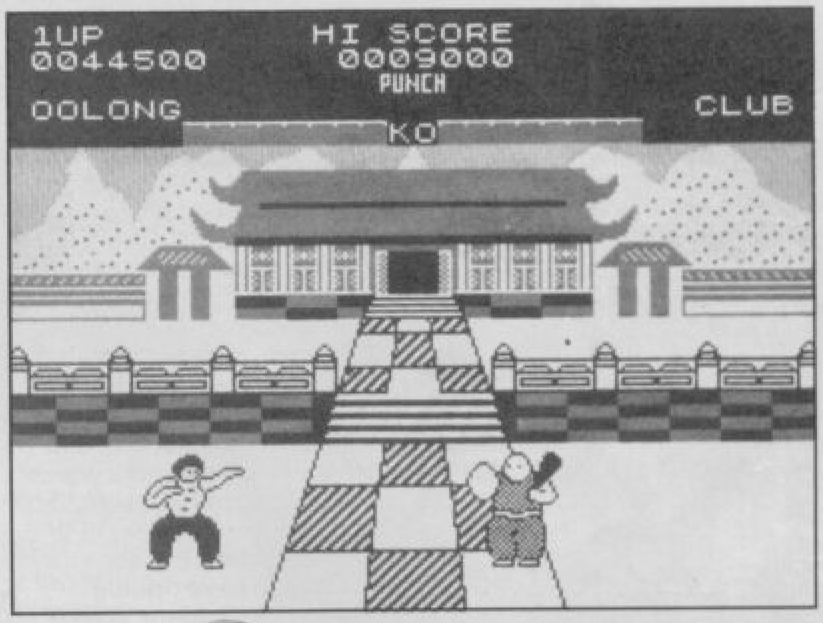
Star is a specialist in the high kick, so your best bet is to attack her with ankle punches and leg sweeps — anything to dodge those deadly leg swings. She may also throw a couple of shuriken, but there's plenty of time to jump them.

Next is Nuncha, master of the nunchaku, two short poles connected by a length of chain. It's an uncomfortable feeling when those poles whistle round your ears, so use a high kick or flying kick. If the going gets too rough, you can always leap over your opponent and attack from the other side — that may take him off balance.

A good knowledge of the controls is essential when fighting Pole — another fattie who uses the ancient rod, or Bo. He uses that to block your attacks as well as prod you. A wide range of flying kicks and punches are necessary to avoid the Bo, it also helps to change tactics and get in close — that way the pole is not as effective and you can slug away to your heart's content.

The backdrop changes with your next opponent, and you'll find yourself fighting in the yellow forecourt of a colourful scene, a red temple looming in the background.

And with the change of scenery comes Club. He should be called Club and Shield as he carries the latter to deflect your



blows. Try to nip around it to deliver fast kicks and punches to the upper body and face, but remember, the club inflicts more damage than the shield, so you have to carry out both defensive and attacking moves.

Fan is another young, elegant lady, with a deadly kick and near fatal fans. While fanning her face, waiting for you to attack, she will probably chuck one at you. Treat it in the same way as you would the shuriken and jump it. Then get in close and attack her lower legs. She is a difficult opponent.

The final three opponents are even more difficult. Sword, as you might guess, wields a sword, Tonfun fights with tonfa twirling sticks, and then there is Blues, the Grandmaster. Beat Blues and you'll become Grandmaster in his place.

Yie Ar Kung Fu is a replica of Konami's arcade game — from whom it has been licensed — the graphics are colourful and well drawn, and the animation is fluid. However, it is not hard to beat and you should have no trouble in attaining the title. After that, well, just start the game again with harder and faster opponents.

Clare Edgeley



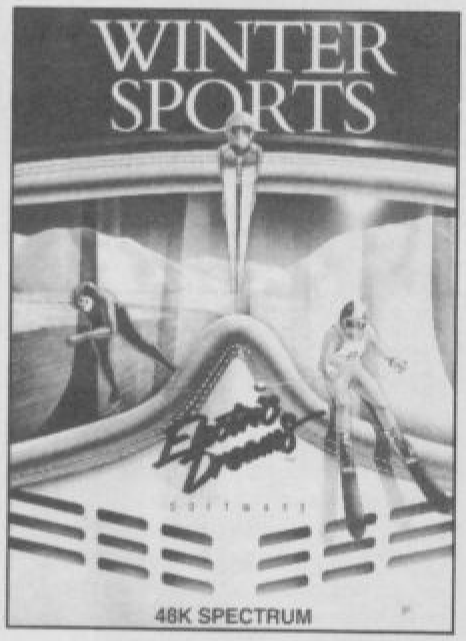
Publisher Imagine
Price £7.95
Memory 48K
Joystick Kempston, Sinclair,
★★★

Winter Sports



ELECTRIC DREAMS has stuffed eight events from the world of the winter Olympics onto a single cassette, hoping no doubt to score with an icy version of Daley's Decathlon. Unfortunately the games themselves are not of remarkable quality, and some are really rather dire.

The first three games are all skiing variants, and loaded in one part. The screen splits into two halves — the left side shows the skier's view, the right side an aerial view of the course, which scrolls upwards as you descend, and on which your course is drawn as a thin line.



The skier's view is pretty, with the Alps in the background, but you won't spend much time admiring it as it's much more sensible to use the plan view to plot your course. You can move left and right, and increase or decrease your speed, and the trick, as ever, is to get the correct angle as you come around a gate, so as to be lined up properly for the next gate.

The three events are Downhill skiing, Slalom and Giant Slalom, and they all work much the same way, and you've probably seen such games many times as program listings in magazines.

On, then, to Ice Hockey, which is perhaps the most interesting of the games. You have a six-man team, and play four five-minute periods. The player nearest the puck is the one you move, and tackling is done simply by moving into an opposing player.

Although the colour clash is pretty gruesome, this is a simple, fast implementation which does play well. Although the controls are kept to a minimum, that is an advantage here, as you can concentrate on passing and positioning, and not have to worry about which of 15 key options you should be using.

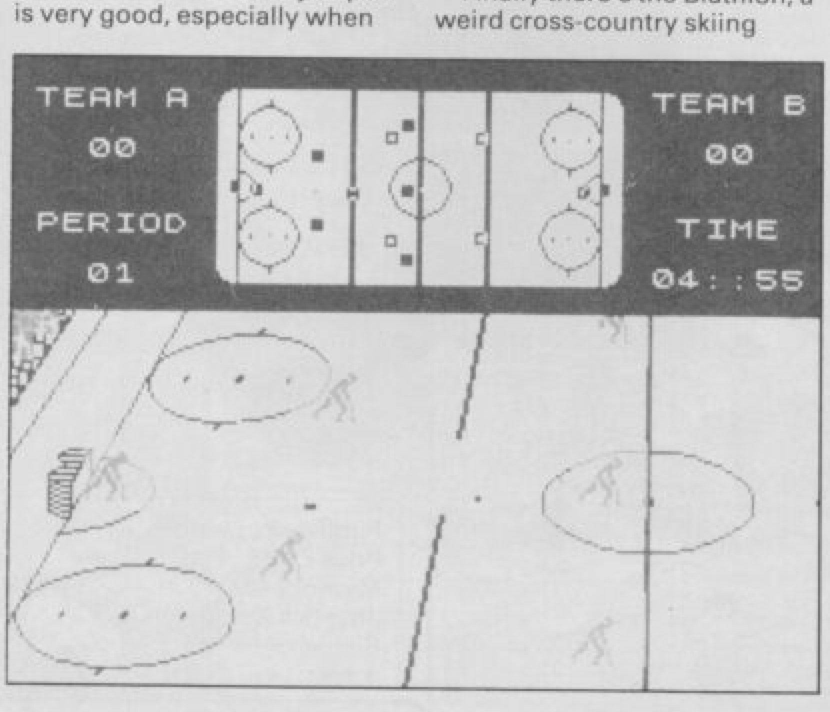
Unfortunately, our copy appeared to have trouble keeping time, and the screen clock jammed on the first quarter, making it impossible to actually finish a game. We also found sections of the score table degenerating. According to Electric Dreams, this is a bug which will have to be removed from all copies on sale in the shops. Alas, we did not receive a corrected version in time to include the result in this review.

Ski-jumping is fun but slight — the animation of the jumper is very good, especially when he falls over. First you have to launch him down the slope, then keep him on a straight track, jump at the end, keep his body held correctly in the air, and land without falling over. This all happens in about six or seven seconds, making it by far the fastest event.

Speed skating gives you a choice of five races up to the gruelling 10,000 metres. The skater is propelled by left-to-right joystick pumping, but the graphics of skaters are not particularly interesting and the computer is a weak opponent.

More difficult is the Bobsled, which works rather like the slalom events but with left and right control being determined by the curved banking of the track. Take the corners too fast and you crash — it's more fun than the ski-run games and a lot faster.

Finally there's the Biathlon, a weird cross-country skiing event where you have to stop every so often to shoot at targets. The instructions are rather muddled as regards loading the gun and moving the gun bolt, and the firing sequence is just a question of pressing a button when the moving sights are on target. The endurance skiing is handled again by pumping the joystick, and this time the important thing is not to waste your energy. The graphics show a cycle of screens depicting alpine chalets and countryside together with the firing range itself.



The collection as a whole, bugs or no, is really only likely to gain solid approval from winter sports enthusiasts. As each game is loaded separately, you do get a lot of code for your money, but also the aggravation of finding the right place on the tape and waiting for the game to load. A hi-score table is carried across from game to game, which is fine, but other sports compilations — **Hypersports**, **Daley Thompson's Supertest**, and **Decathlon** are but three examples — offer much more excitement and better presentation.

Winter Sports is only moderate value for money but the implementation of the events is usually so minimal as to render the whole thing one of the weaker compilations we've seen.

Chris Bourne

Publisher Electric Dreams
Price £9.95
Memory 48K
Joystick Kempston, cursor Sinclair
★★

NOW YOU CAN EXPLOIT SPECTRUM GRAPHICS TO THE ULTIMATE.

With the Graphics Suite from Print 'n' Plotter.

If you're interested in producing great graphics with your Spectrum, then these programs are designed with *you* in mind.

And you *don't* have to be an expert. Even with no programming knowledge the programs will enable you to produce fantastic graphics to use in every piece of software you write.

Or you can use them just for the fun of producing computer art.

Each of the programs are inter-active and together they form the most accomplished graphics toolkit you will find on the market today.

But you can also use each of them separately, as each are self-contained and cover a specific area of graphics programming.

With Print 'n' Plotter's 'GRAPHICS SUITE', everything is made so simple you won't believe it.



Just a few of the things you can do...

PAINTPLUS (GRAPHICS SUITE 1)

If you want to produce fantastic screen graphics or UDG's on your Spectrum, then you will find PAINTPLUS not only a complete graphics toolkit . . . but also the simplest to use at every level.

Facilities include: DRAW, PLOT, ARC, CIRCLE, FILL IN SOLID OR PATTERNS, FILL IN OVER MODE, DRAW RADIALLY, ARC RADIALLY, ENLARGE TO EDIT, PAPER WASH, BOX DRAW and so on . . .

As well as drawing, PAINTPLUS has a tremendous UDG section. It also has UDG "grabbing" from screen as well as full facilities for defining, saving and loading UDG sets.

The Organiser section of the program enables you to automatically store multiple screen graphics or multiple UDG banks.

PAINTPLUS comes with a demo of screens, animation and alternative character sets, plus a copy of Print 'n' Plotter PICTURE BOOK – 100 pages of instructions, hints, tips, listings and related graphics information.

SCREEN MACHINE (GRAPHICS SUITE 2)

SCREEN MACHINE is *the* graphics manipulator.

Use it when you want to take your graphics and turn them into professional machine coded data for use in BASIC or M/Code programs.

For instance:

SCREEN MACHINE will compress the memory consumption of your graphics to cram even more into the computer's memory –

As well as memory compression, SCREEN MACHINE allows you to put your graphics through a series of highly-sophisticated graphics manipulations.

These include ENLARGE, REDUCE, RELOCATE TO OTHER PARTS OF THE SCREEN, STEP AND REPEAT, BLEND SCREENS TOGETHER, RECOLOUR SELECTIVELY OR GLOBALLY, FLIP SCREEN, etc.

And SCREEN MACHINE also has a dedicated Text Compiler – ideal for anyone who uses lots of text for instructions or menus on screen.

SCREEN MACHINE also comes with a copy of PICTURE BOOK and a demo that's so good you can't believe it.

ART-O-MATIC (GRAPHICS SUITE 3)

Ever wanted to produce screen graphics for Adventure Games, Educational, Training, or Scientific programs and run out of memory because the graphics handling consumed too much memory?

If so, you need ART-O-MATIC, Print 'n' Plotter's great new graphics compiler.

With ART-O-MATIC you can draw, define and store an incredible number of screens or parts of screen in your programs as compiled instant machine code which is usable from BASIC or M/C.

The exact amount of compression possible depends on your graphics, but up to 99% is possible and an average of 85%-90% is usual.

ART-O-MATIC is a complete graphics drawing program, so you can produce your works of art and compile at the same time.

The instruction book and demo that comes with the program show you *everything* you need to know about cramming great graphics into your Spectrum.

SPRITE MACHINE (GRAPHICS SUITE 4)

There have been a number of programs called Sprite Generators. Most of these are self-contained and not a great deal of use to people who want to use Sprites in their own programs.

SPRITE MACHINE is different. This program was written with *you* in mind – whether you are a professional, amateur or beginner.

There's never been a simpler Sprite program to use. All you have to do is draw your Sprite and then choose from a fantastic range of options to get it doing what *you* want.

You can: animate your Sprites, choose any direction and starting position, adjust speed, adjust height, choose running time, decide on edge actions such as bounce, wraparound, reflect or stop, make intelligent decisions like strike and collision actions, colour your Sprites or take colour from the screen, trace or non-trace, etc.

The program comes complete with a cursor-operated Sprite drawing board and catalogue/store function.

Instruction booklet and demo are included with the program.

Now *you* can have professional Sprites in *every* program you write.

ORDER NOW OR ASK YOUR LOCAL COMPUTER SHOP!

Send to: Dept SU Print 'n' Plotter Products Ltd.
19 Borough High Street, London SE1 9SE
Credit Card phone orders: 01-403 3622.

Please send me the following:

......Paintplus @ £9.95 ......Screen Machine @ £8.25

......Art-O-Matic @ £8.25 ......Sprite Machine @ £9.95

☐ I enclose remittance in full

☐ Please bill my Access/Barclaycard/Visa No.

☐ I enclose 17p stamp for details of products.

Name

Address

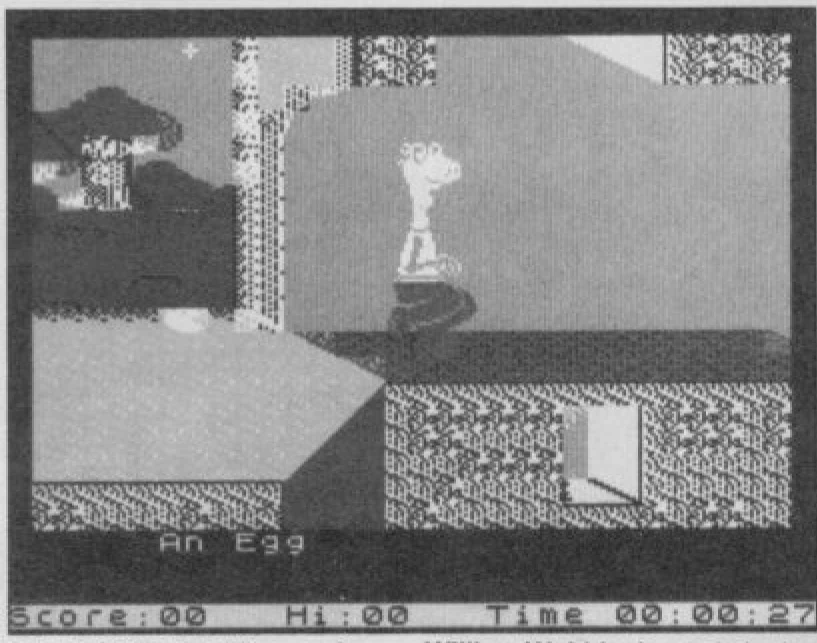


Prices include post & packing for U.K. delivery. Overseas orders please add 20% for additional handling and post.

Print 'n' Plotter Products

SU/2/86

William Wobbler



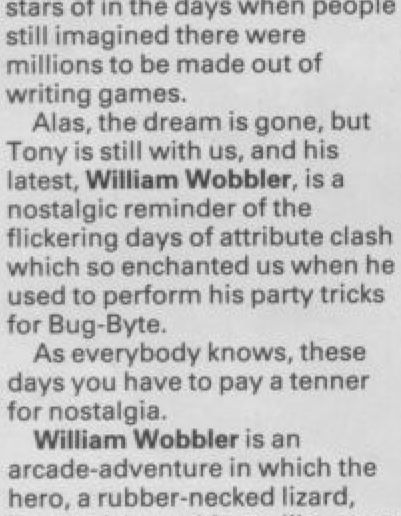
TONY CROWTHER is one of those Liverpool programmers, like Eugene Evans and Matthew Smith, who they tried to make stars of in the days when people still imagined there were millions to be made out of writing games.

Alas, the dream is gone, but Tony is still with us, and his latest, **William Wobbler**, is a nostalgic reminder of the flickering days of attribute clash which so enchanted us when he used to perform his party tricks for Bug-Byte.

As everybody knows, these days you have to pay a tenner for nostalgia.

William Wobbler is an arcade-adventure in which the hero, a rubber-necked lizard, has to pick up objects, like eggs and bits of a teleport, in order to gain ten clues. Those clues open doors which allow you to solve the puzzle. Oh wow, arn't 'cha hooked already?

I wasn't. I was sitting next to Clare Edgeley all day. She was playing **Three Weeks in Paradise** and I reckon somebody fixed the draw.



William Wobbler is a pain in the elastic neck.

You want to know about the graphics? The wobbling saurian is a very large figure who bounds or waddles across the screen in search of his objects. Sometimes the game is a straight visual adventure, and at others William has to pull in his neck and duck as flying frogs and swarms of bees pass overhead. If you've ever seen a flying frog, you won't need to buy **William Wobbler** to remind you about it. If you haven't, don't bother.

The objects all have names which get printed up on the screen when you find them, so you know what they are. Of course, the superb state-of-the-art flicker system leaves you in no doubt about the identity of these objects. The programmers — Mal Gillott and Steve Evans — who adapted Crowther's original Commode 64 game — have done an even better job on the Spectrum, according to Wizard, than the original. The mind boggles.

There is a certain amount of fun to be had from sussing out the various uses for the objects. Not that you have to use them as such — if you have the right item you progress on to the next stage, and that's about it. Trigger-skill is involved in both ducking the nasties and aligning yourself up with the object you want to pick up. When the hero is so large there's a lot of room for error, and the result is not realisitc.

William Wobbler comes blessed with one of the grottiest colour ad campaigns we've seen for some time, with a really wet verse about 'caverns dark and dire' and fulfilling 'your heart's desire'.

What it all boils down to is an extremely old-fashioned looking game with a very weak theme — just straightforward keys and monsters, caverns and trap-doors — sorry, teleports — which appear to make no collective sense whatsoever. The puzzles have some wit and ingenuity, and Crowther is obviously capable of designing a good game, but **William Wobbler** is most unexciting.

The real insult is charging £10 for the experience. That's the upper end of arcade game prices, and this production doesn't merit it.

Chris Bourne

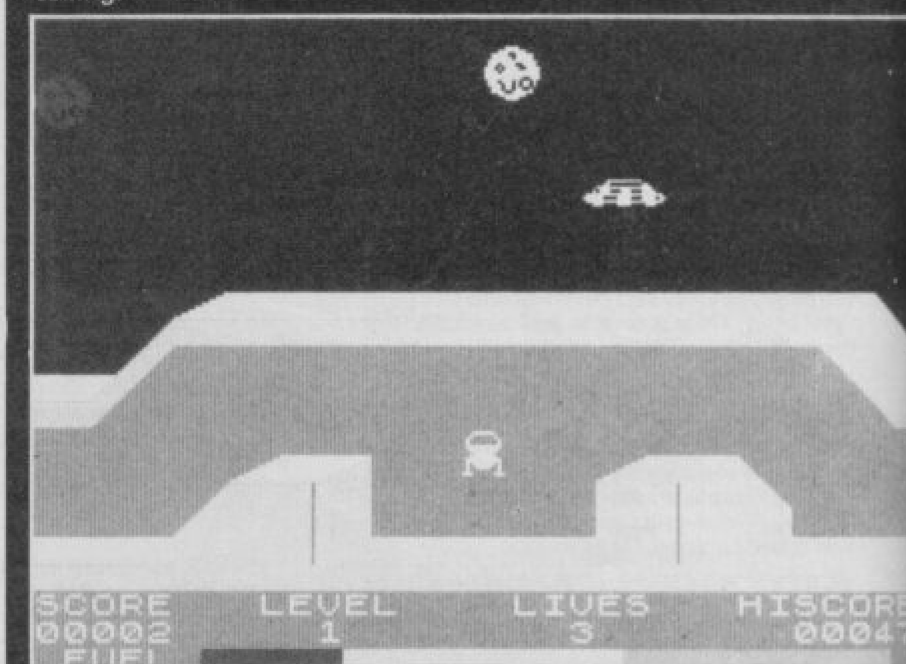
Publisher Wizard
Price £9.95
Memory 48K
Joystick Kempston
Programmer Tony Crowther (converted from C64)
★★

1985 The Day After

1985 — the day after what, you may well ask? The day after the death of the tyrant, according to the blurb, though as far as I can see she's still around.

Okay, so this is another 1985, a parallel universe or somesuch, because in it the old regime has stored nuclear plasma on four neighbouring planets, and with your earthly supplies running out it's going to be a cold winter unless you can retrieve it.

The blurb also tells you that the spacecraft has 'intricate controls'. If by that it means the damn thing steers like a double decker on ice then it's not far wrong. Despite their ability to use space as a nuclear store cupboard the best the scientists can do for their shuttles is turn and thrust controls. Remember how unsteerable the blaster was in **Asteroids** once you started moving? In **1985** you'll probably spend your first few attempts trying to leave the space station without crashing into the ceiling.



Once out into the wilds of space you can drift up to a planet, avoiding a passing UFO and then the action starts as you try to locate the fuel pods while alien gun emplacements take pot shots at you. The landscape has a sort of blocky **Defender** feel to it, though unfortunately you're not armed so there's no getting your own back for the unfriendly welcome.

The curse of this game is that it seems to have so little point. The only challenge comes from the unroadworthy nature of your spacecraft, but that is likely to prove more frustrating than fun. At the price it may pass a few hours but **1985** is certainly not game of the year.

Jerry Muir

Publisher Mastertronic **Price** £1.99
Memory 48K **Joystick** Kempston, Interface 2, cursor
★★

Try beating our SpecDrum!



Spec Drum

£29.95

Digital Drum System for the Spectrum

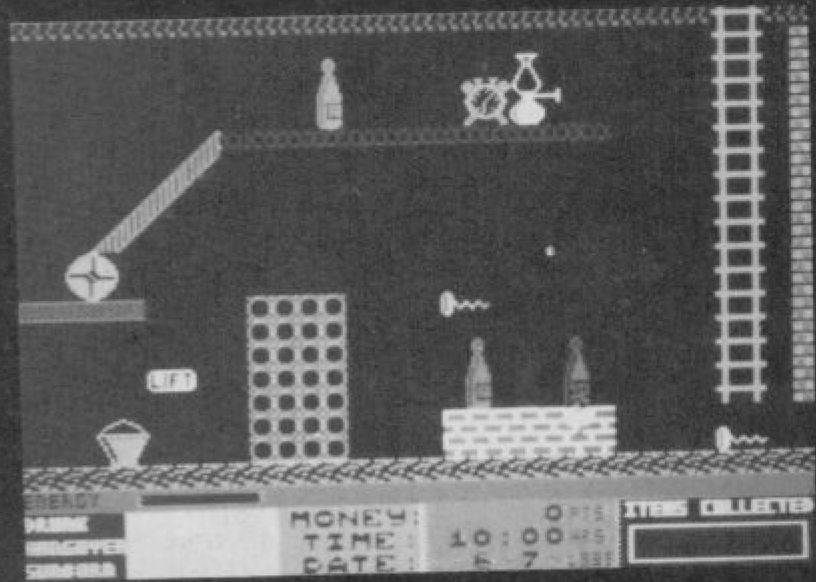


- 8 DIGITALLY RECORDED REAL DRUM SOUNDS
- SIMPLE TO USE — UP AND RUNNING IN ONLY MINUTES
- A TRUE DIGITAL DRUM MACHINE
- 'REAL TIME' OR ON-SCREEN PROGRAMMING
- COMPLETE WITH SOFTWARE
- EXTRA SOUNDS CAN BE LOADED FROM TAPE
- CREATIVE, EDUCATIONAL AND FUN
- THE MOST EXCITING PERIPHERAL EVER DEVELOPED
- DYNAMIC FILING SYSTEM — STORE OVER 1000 PROGRAMMED RHYTHMS
- TAPE SYNC FACILITY
- SONGS CAN BE SAVED ON TAPE
- POLYPHONIC
- COMPREHENSIVE MANUAL
- JUST PLUG INTO YOUR HI FI

AVAILABLE FROM HIGH ST. STORES AND ALL GOOD COMPUTER SHOPS OR VIA MAIL ORDER.

Cheetah Marketing

1 WILLOWBROOK SCIENCE PARK, CRICKHOWELL ROAD, ST. MELLONS, CARDIFF
TELEPHONE: CARDIFF (0222) 777337 TELEX: 497455
(Export enquiries – contact Cheetah direct)



Costa Capers

WITH YOUR ears ringing with the unlikely, burbling beeps of *Viva L'Espagne*, you start off on what promises to be a horrific holiday in the land of the matadors.

It is set in a **Manic Miner** format — even down to the minute sketchy graphics. You play Ted Blewitt proving to his work mates that he has actually crossed the channel for his holiday.

Ted has to find his camera, with his lost luggage, take 36 snaps and have them developed before the end of his month off.

The clock ticks away, Ted skurries around through day and night and the screen turns blue and black accordingly. Other than a whole series of lifts and ladders to leap onto, objects to avoid and others to pick up, you have to watch for the hazards of sunburn and too much booze.

If you get drunk, you may suffer a brain-numbing hangover or strange side effects. To keep an eye out for those disasters, a grid at the bottom of the screen shows drunk hangover and sunburn ratings. Points are scored for the money you've got.

As your wallet has disappeared you must find a credit card, on the second screen, and there is a small amount of hopping and dodging before you can reach it. Beware Sir Clive's specs — they meander around the screen in an aimless fashion. If touched they send you back to the beginning of the screen.

If you manage to avoid gulping down a can of lager on the first screen there seems to be one less hazard on the second. After you've picked up your flexible friend, then you may have a pint — if the specs haven't nicked it first.

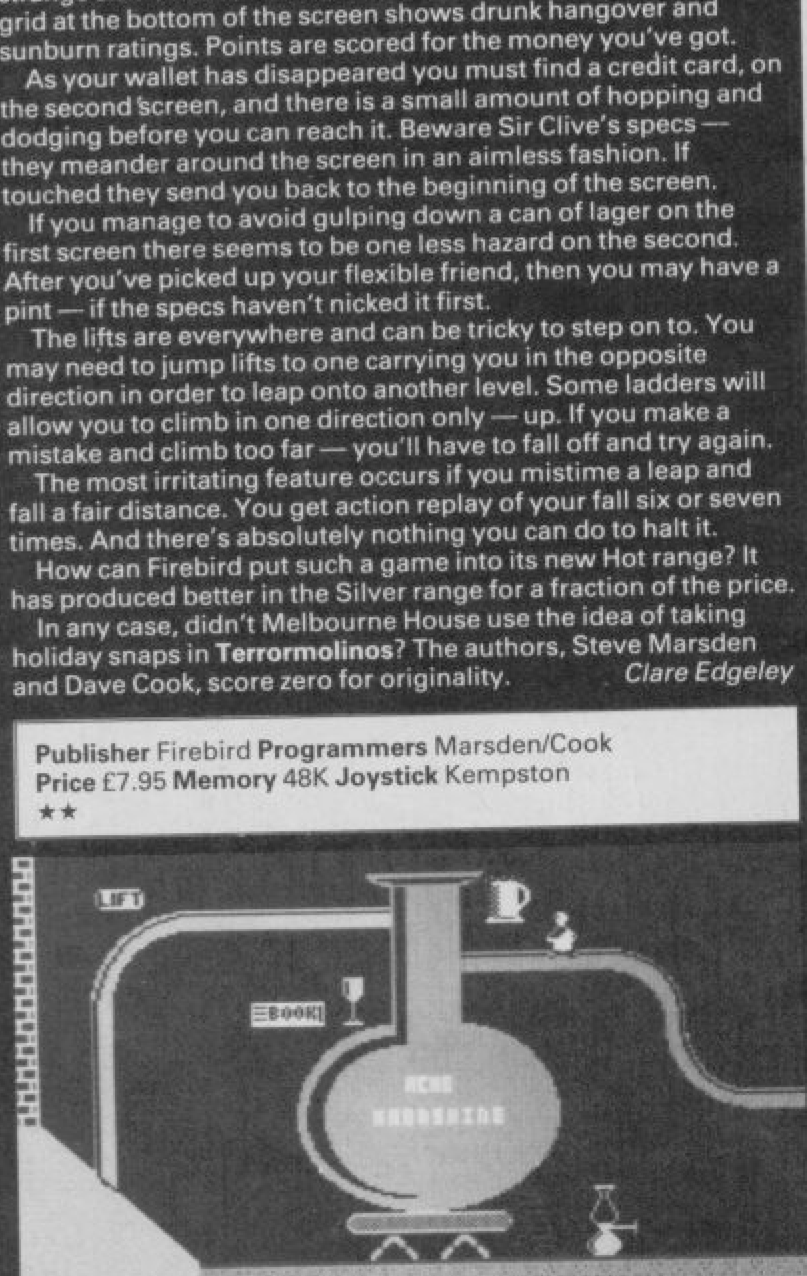
The lifts are everywhere and can be tricky to step on to. You may need to jump lifts to one carrying you in the opposite direction in order to leap onto another level. Some ladders will allow you to climb in one direction only — up. If you make a mistake and climb too far — you'll have to fall off and try again.

The most irritating feature occurs if you mistime a leap and fall a fair distance. You get action replay of your fall six or seven times. And there's absolutely nothing you can do to halt it.

How can Firebird put such a game into its new Hot range? It has produced better in the Silver range for a fraction of the price.

In any case, didn't Melbourne House use the idea of taking holiday snaps in **Terrormolinos**? The authors, Steve Marsden and Dave Cook, score zero for originality. *Clare Edgeley*

Publisher Firebird **Programmers** Marsden/Cook
Price £7.95 **Memory** 48K **Joystick** Kempston
★★



Austerlitz

IT WAS the morning of December 2, 1805. Exactly one year earlier Napoleon had been crowned Emperor of France. The hostility of other European powers to the expansionist ruler had resulted in various alliances, the most recent of which was the Third Coalition. Napoleon's response was typically aggressive. He had already scored military victories but needed a yet more decisive demonstration of his might.

Austerlitz the game is a prequel to Lothlorien's **Waterloo**; a one player wargame that gives you a chance to play the Napoleonic side for a change. The French player has to contain the Allied armies, dealing as much damage as possible and avoiding unnecessary loss of life.

The game ends if the Austro-Russian army reaches the left hand border with at least 7,500 men or when losses reduce either side to six units or less, or under 20,000 men.

You can't afford to get carried away with the prowess of your troops because the mists which hung over the battlefield that morning created confusion as to where the enemy was, and the computer reproduces that by hiding the movement of Allied units until they are in the proximity of your troops.

You can't afford to leave a gate open anywhere, and it's wise to use your faster moving cavalry to scout around areas where you think you may locate the Alliance, using the scrolling of the map to give you clues. It's probably also worth holding one or two units to move to trouble spots.

The map is in traditional wargame style, with the units represented by coloured blocks, the computer equivalent of cardboard counters. Every effort has been made to make it as large and clear as possible, so that it must be scrolled four ways to see the whole area, but the overlap isn't so great as to make you lose touch with what's happening elsewhere.

There are three main types of terrain — plain ground, ridges and frozen lakes — with streams, towns and castles dotted around. A strip along the bottom of the screen provides a menu for the single key command inputs, and messages appear in a separate overlayed window as necessary.

Once you've scrolled your way around the field you summon up a square cursor and choose a unit — a pity there's no joystick option for this. You can then look at details of morale and strength or the underlying terrain, or you can make a command.

Those can be on two levels. On the corps level you have a more sophisticated choice of options for each of the six corps commanders, such as movement, engage the enemy, retreat fast or withdraw.

The commander will take the three units under his command with him, though he may see fit to challenge your decision if it brings him into contact with the Alliance or results in heavy losses. At first it's wise not to overrule these objections as the commanders have more up-to-date information than you and a degree of intelligence.

The other level of command is to control individual units, and though that is slower it is necessary to regroup corps or draw up battle lines. You then exit the command mode and sit back to watch the blue blocks move in turn around the map. Combat is resolved, with corps flashing as they take losses, the scale of which is displayed to the nearest 500. After which the computer takes its turn at moving and combat.

This is all very much the stuff of traditional wargames. In fact, apart from the hidden movement this could almost be a board game, though at least the computer takes care of all the book-keeping and calculations. However, I can't see it winning many friends among the uninitiated, who will probably find it rather slow. Not that the response times are slow — it's just that not a lot seems to happen. The whole thing may prove rather confusing too, and maybe it was a feature of the artificial intelligence, but I'm sure that one of my commanders was disobeying orders.

While it avoids the pitfalls of many early micro wargames **Austerlitz** is still far from perfect and it would be nice to see more originality taken in approaching this genre. Nevertheless, those who are interested in military problem-solving should enjoy challenging it at any of its three levels of difficulty. *Jerry Muir*

Publisher Lothlorien
Programmer Ken Wright
Price £9.95
Memory 48K
★★★



RAMBO
TM
FIRST BLOOD PART II
TM
OFFICIAL COMPUTER GAME OF THE BOX-OFFICE No.1 SMASH HIT. TAKE THE ROLE OF SYLVESTER STALLONE IN ALL THE ACTION-PACKED BATTLE SCENES.
RELEASED NOW
STALLONE
SPECTRUM 48k
7·95
ocean
COMMODORE 64 & AMSTRAD
8·95
Ocean House · 6 Central Street · Manchester · M2 5NS · Telephone 061 832 6633 · Telex 669977
Ocean Software is available from selected branches of: Boots, WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Greens,
Spectrum Shops and all good software dealers. Trade enquiries welcome.

Sir Fred





GIRD UP thy loins and take a trip into the misty past where maidens were modest, kings were crusty and knights were knackered.

Sir Fred takes place in a land where all the good knights are off on quests and the rest are quietly mouldering in castles bought with dragon's gold.

Luckily, when the evil Sir Hugh D'unnyt captures a princess, her father — a sickeningly good king — has to find a white knight who will go to the castle where she is held captive and rescue her. After wading through a bunch of wallies with silly names such as



Sir Vival, Sir Prize and Sir Spender, he finds Sir Fred. While not being one of the most competent knights in the kingdom he is keen and that's what counts.

His first problems occur even before he gets to the castle moat. The show opens with Sir Fred standing in his suit of well-oiled armour. To the left is a chasm, and wriggling at the bottom is a snake which drains energy from unsuspecting knights.

You can jump over the pit, using one of the many ropes in the game, or take your chances down below by jumping over the snake, and leaping onto the vine which creeps up the far wall of the chasm.

Rope swinging is an important technique which must be mastered quickly if you are to survive. Most screens involve one or more ropes. Jumping up onto them is the easy bit but shifting your weight between one side of the rope and the other to get it swinging is a skill which will take some time to perfect. Unfortunately, until you have done so, many of the useful objects in the game will remain out of reach.

Once through the initial screen you will encounter the moat and the first stretch of water. Objects such as swords and stones are often placed in water and in order to retrieve them you have to swim.

If you have not come across the inertia effect on the first screen you will when you jump into the moat. Each character is affected by gravity, an attribute easily demonstrated by rushing forward and then stopping abruptly, at which point Fred will skid to a halt and maybe fall over. You should also beware of holding the forward movement key down too long. If you do you may make a dent in a castle wall or slip into a chasm.

In water you are affected by bouyancy. To dive you must hold your finger on the down key while pressing forward. Moving Sir Fred into crevasses under water is consequently pretty difficult.

The moat screen has two objectives. First you should collect an object by climbing the castle wall and swinging onto a cloud, all the while harrassed by lightning bolts. Any misjudgement and you will fall into the water below and the waiting jaws of a fish.

The entrance to the castle is discovered by diving to the left side of the screen and swimming through a tunnel. On the way you might be able to pick up a bundle of stones on the moat floor, useful in David and Goliath situations where the evil knight's henchmen try to get the better of you.

Once through the tunnel you will find yourself on a screen containing two lagoons. Climb out of the first and slip into the second, being careful not to lose power to a giant magenta octopus. Actually, he isn't an octopus as he only seems to have four legs.

If you are lucky Sir Fred's sword will be at the bottom of the lagoon but you can never be sure. There are 58 patterns in which objects are distributed and one of those is selected at the beginning of the game.

The sword is the most important defensive weapon in the game. As with all other objects it can be picked up using the select button, and brought out for action by positioning the select cursor over it and pressing use. All the objects are displayed at the bottom of the screen in icon form.

You can move the sword up and down using three stances, or positions. The left and right movement keys are used for attack and parrying. When you come across an opponent the first one to make a move has the initiative. There are seven levels of opponent skill — judged in attack/response reaction time — and the computer automatically selects those.

To kill an opponent you must hit him three times unless he is trapped against a wall or in a corner. The computer generated characters are pretty



hot fighters — even at the seemingly lowest levels. If you sharpen up your sword play you will still find that there are few gaps in the seemingly flawless computer defence.

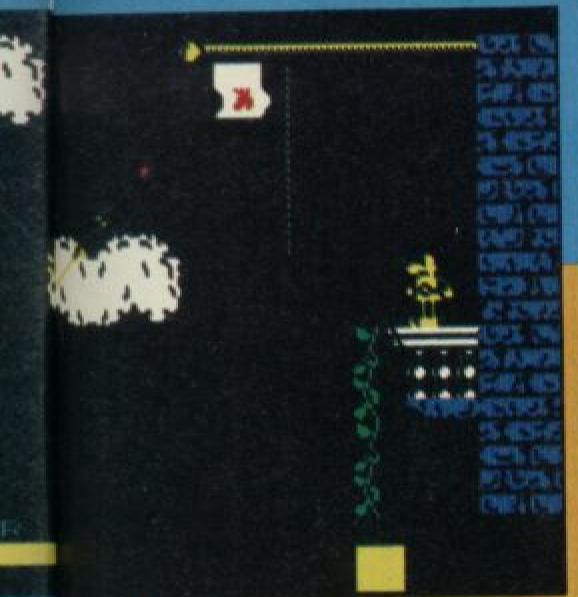
Other important weapons include the bow and arrows found on a cloud on the moat screen. I found it almost impossible to get at.

Once you are through the moat and into the castle the action speeds up and the tests get tougher. Dodge arrows loosed by medieval archers and avoid the guards who stand at the entrances to new rooms, or bar your passage across the screen.

The game is reminiscent of the Wally epics, though the graphics are not as big, bright or colourful. That, however, is more than made up for by the lack of attribute flicker and realism of movement.

There are some inconsistencies in realism — for instance, you can never drown







or lose power in water unless while being attacked. Just as well, really, as it would be almost impossible to play with the number of lagoons even within the castle.

You will be hearing a lot from the Spanish authors — Carlos Granados, Fernando Rada, Camilo Cela, and Paco Menendez — in the coming months. They used to work for Quicksilva, for whom they produced **Fred**, an arcade adventure with a *Raiders of the Lost Ark* feel. **Sir Fred** was grabbed by Mikro-Gen, who has already signed the lads to produce more games. They certainly made the right decision. *John Gilbert*

Publisher Mikro-Gen
Programmers Granados/Rada/Cela/Menendez
Price £9.95 **Memory** 48K
Joystick cursor, Kempston
★★★★★

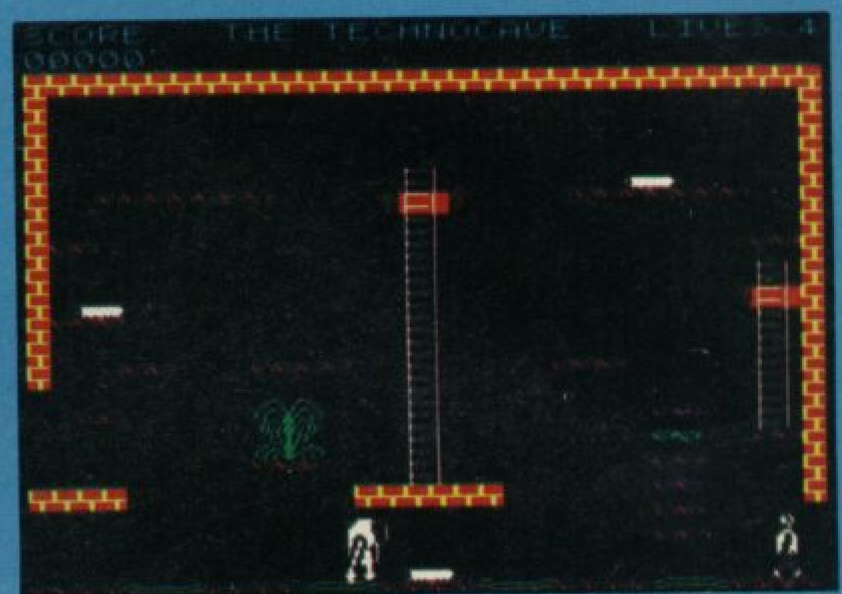
Aladdin's Cave

ONCE AGAIN the pantomime season has arrived and all around the country poor Aladdin is being banished to the Wizard's Cave, which is just where he starts in this seasonal offering from Artic. Don't expect the kung fu heroics of today's other oriental games, though, because Aladdin, with its platforms and ladders, is as traditional as the panto itself.

With a-lad-in the cave the first aim is to get him out again and to do this you'll need all the usual skills in timing and placing, plus a bit of observation to watch the regular patterns of the deadly nasties, which include falling boulders, spiders and birds. One odd hazard here is that if you hit a wall or rocky outcrop you bounce back, so you have to be careful when you leap.

Naturally there are objects to collect and those too have an unusual function. Collect them all off a screen before leaving it and you may find they give you the power to transform yourself into an animal, which will get you through a later screen. The only way you'll get past the underground river is as a dolphin. The other transformations are monkey, bird and genie.

Other objects include weapons and spells and you'll need these for later, because — instead of being a sensible youth and running home to Widow Twanky — you have to cross the desert, bribe your way into the city, and challenge the Wizard in his lair.



The game has been written with a certain amount of style and the cave backgrounds, all glowing colour against black, are very artistic. It's a pity, though, that your figure is so small and that he appears to fall through rocks in places. There are also instances where death is annoyingly premature. The sound is hardly stunning but the game opens with a reasonable rendition of *Scherezade*.

All in all, Aladdin isn't as dumb as the average platform and ladder game and it has some nice features, but Artic is a long-established company and its programs are beginning to look a bit long in the tooth.

While it's no Christmas turkey, neither is it much more than a stocking filler, and I can't help thinking that this sort of thing is better suited to a budget range nowadays.

Jerry Muir

Publisher Artic
Programmer Keith Purkiss
Price £6.95 **Memory** 48K
Joystick Kempston, cursor
★★★



Sir Fred



A severe attack of Chivalry on a Moonlit Knight

Ye Olde 48K Spectrume £9.95

MIKRO-GEN Unit 15, The Western Centre, Bracknell, Berks. 0344 427317


BATTLE OF THE PLANETS
RETAIL £9.95
BATTLE OF THE PLANETS is the Space simulation
that was selected for the
National Computer Games Championship
MIKRO-GEN Unit 15, The Western Centre, Bracknell, Berks. Tel: 0344 427317



Commando

YOU MAY not see yourself as the heroic type, capable of winning a war single-handed, but Elite's conversion of the popular arcade game **Commando** is likely to bring out the **Rambo** you didn't know you had inside you.

The game panders to your worst instincts, allowing you to zap away for all you're worth, amassing points the more people and things you blow up. You can disapprove as much as you like, but the game is great fun and you will probably find it hard to resist.

The storyline couldn't be simpler. You are the crack combat soldier Super Joe, sent in alone to defeat the advance rebel forces equipped only with your M60 machine gun and six hand grenades. Pushing relentlessly forwards, you must penetrate deep into hostile territory with the eventual aim of capturing the heart of the enemy fortress.

Luckily, your machine gun is perpetually self-loading, and there are plenty of hand grenades abandoned by enemy soldiers for you to be able to replenish your stock. In all other respects, however, the odds are heavily stacked against you.

Right from the start, the pace is hectic. Advancing steadily along the scrolling landscape, you are assailed on all sides by soldiers who come at you from behind sandbags, boulders and palm trees or leap down on you from the top of tufted hillocks. The bullets fly, the hand grenades and the dynamite rain down, and with all the explosions it is a bit like firework night. Any stray bullet or hand grenade can make you lose one of your five lives, and you must keep dodging and firing every inch of the way.

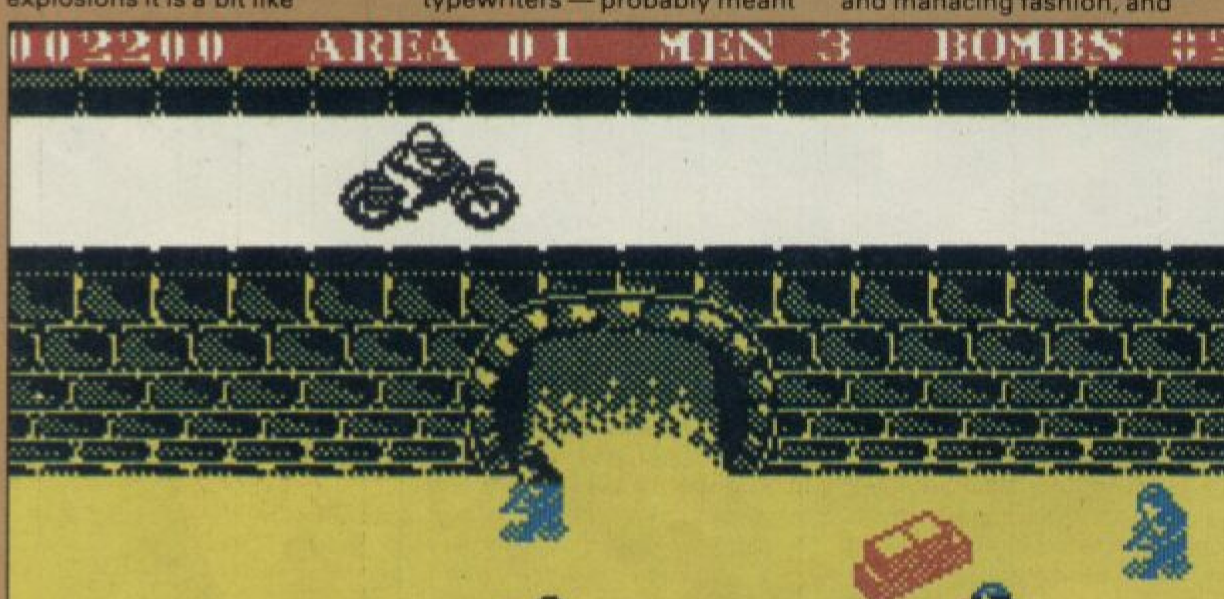
Having disposed of a first wave of attackers, you will come to a bridge with a narrow archway. Run through this, avoiding the hail of bombs coming over the wall. If you are still in business you'll arrive at a set of red gates, and here your troubles really begin. The gates slowly part to unleash a flood of enemy soldiers.

Sheltering behind the wall, firing continuously and lobbing a few grenades, you may just about be able to eliminate this horde down to the last man. A tickertape message then appears despatching you to area two, although by now you'd probably rather have a nice quiet tea break.

Area two features lorries, bunkers, huts and mobile typewriters — probably meant to be jeeps. All of these conceal more enemy soldiers and snipers, and if you get rid of them, you will eventually arrive at another set of gates releasing a second wave of attackers. If you manage to survive this onslaught without being overwhelmed, Rambo would surely be proud of you.

Daunting though the game is, **Commando** is also powerfully addictive. It has fast and furious action, plenty of excitement, and just the right blend of suspense in seeing how far you can get without losing all your lives, and of satisfaction in zapping moving targets. It also has smooth movement and lively, imaginative graphics.

As the screen scrolls from top to bottom, the scene is viewed in 3D from a height — but not directly overhead — so that men and machines are foreshortened. Our hero Super Joe scuttles about in a mean and manacing fashion, and although at first it is difficult to distinguish him from the enemy — he is black, the rest are mostly blue — you soon get the hang of identifying with the right chap.



The hillocks on the first level look a little odd, but palm trees, trucks and sand bags are realistically done, as is the bridge with its motor bike patrol on top. The enemy soldiers daringly fling themselves from the hilltops, arms outstretched in true commando style, and there are no distasteful death throes, either. The enemy shimmer and disintegrate when hit, while Super Joe just sinks straight into the ground.

One particularly nice touch is the high score table, which



consists of military style letters, as seen stencilled on the sides of army vehicles. To spell out your name, you line up each letter in your sights and shoot it — a good enough idea in itself but these letters spin when they are hit like fairground targets. You can even set the whole lot spinning if you so fancy.

There are minor flaws in the graphics, such as ghosts which appear in front of the gates instead of behind them, or figures which glide backwards until they melt into a wall. A worse fault is the fact that the scoring is not explained, either on the inlay or on screen, and with everything happening so fast, there is no time to work out where the points are coming from. An element of strategic planning might have added interest to the game.

All in all, though, **Commando** is exciting, challenging and guaranteed to keep you playing until keyboard or joystick fatigue get you shipped out on home leave.

Nicole Segre

Publisher Elite
Programmers Keith Burkhill, Nigel Alderton
Price £7.95
Memory 48K
★★★★★

Arena



IMAGINE that in the year 2027 the super-powers have not obliterated the planet. Instead, they have ventured into space. That expansion has created problems of its own, for the technology of exploration can also be turned to war.

However far into the future you imagine, mankind will always have its aggression, so in the aforementioned year, on February 30 (February 30? I know this is s-f but . . .) the United Nations passed the historic Arena legislation. This annexed an area of the west coast of Sweden to use as a battle ground — and no unkind remarks about it being the best thing to do with Sweden.

The idea of deciding future conflicts in controlled situations is hardly original, and at the heart of this game is another old chestnut, **Battlezone**, the tank combat game with 3D line graphics that we once all marvelled at. However, as may be expected from wargame specialists, Lothlorien, this is far from a straight copy of an arcade hit.

You take the role of Champion for England — will the rest of the British Isles buy this? — replacing the previous hero who was killed in a clash with Wales over water supplies — obviously some things never change. So you prepare to enter the battle arena, a modern day knight ready to defend your country's honour.



First, though, you must choose your tank and there are four types. Light tanks can shift if they need to, but they lose out on armour; they're also the only tanks to lay mines. If you prefer the security of steel plate then the heavy tank is for you, although you could get stuck against something faster which may locate your weak spots.

Stealth tanks aren't extreme in either speed or security, but have the advantage of not appearing on radar, so they'll need to be in a line of sight before they're detected. Finally, a nippy little go-anywhere number, the hover tank, which isn't well protected but can be the devil to hit. Only the last two categories can cross rivers.

You have command of your own tank plus five slaves and these may be all of a type, or a mixture determined by the computer. Each one has a limited amount of ammunition which may be replenished by returning to base. Only the loss of your number one command vehicle is fatal, so you need to guard yourself carefully.

So, in the morning mists you climb into your seat and take charge. The initial display has no resemblance to an arcade game but wargamers will immediately recognise the creditably clear map which occupies the main screen window. Somewhere in there you'll see representations of your convoy and the first thing is to get them rolling. You do this by cursor control and instead of being just a trendy gimmick it works perfectly.

Choose your tank, and then the movement icon. The tank is now replaced by a square cursor which you move around the screen to select an objective. Once that is located you press fire, then tell the tank whether to make a bee-line, if it can, or to obey the highway code if on the road. With one tank under way you can then start another. Chances are that by the time you've dispatched the last, your first departure will be flashing red and green to indicate that it's without orders. This colour coding of the row of tanks on the status display is rather pyrotechnic but works well.

Keep an eye on the time because you're only allowed 1,000 seconds to achieve victory — decimating the enemy or getting his command tank — though the clock stops for combat. There's also a smaller scale map of the area, with eight road designs to maintain variety.

A radar icon flashes if one of your tanks encounters the enemy, though it's up to you to discover which one by selecting them in turn. Most important is the message bar which keeps you in touch with what is happening, and it won't be long before you're reading the message that one or other of your slaves has entered combat.

If you thought you had to act fast before, you'll now go into overdrive as you select the tank indicated, then move the cursor to the combat option. Suddenly the map becomes a view screen looking down the gun barrel. To its right you now have radar and below it the movement icon becomes a direction of travel indicator.

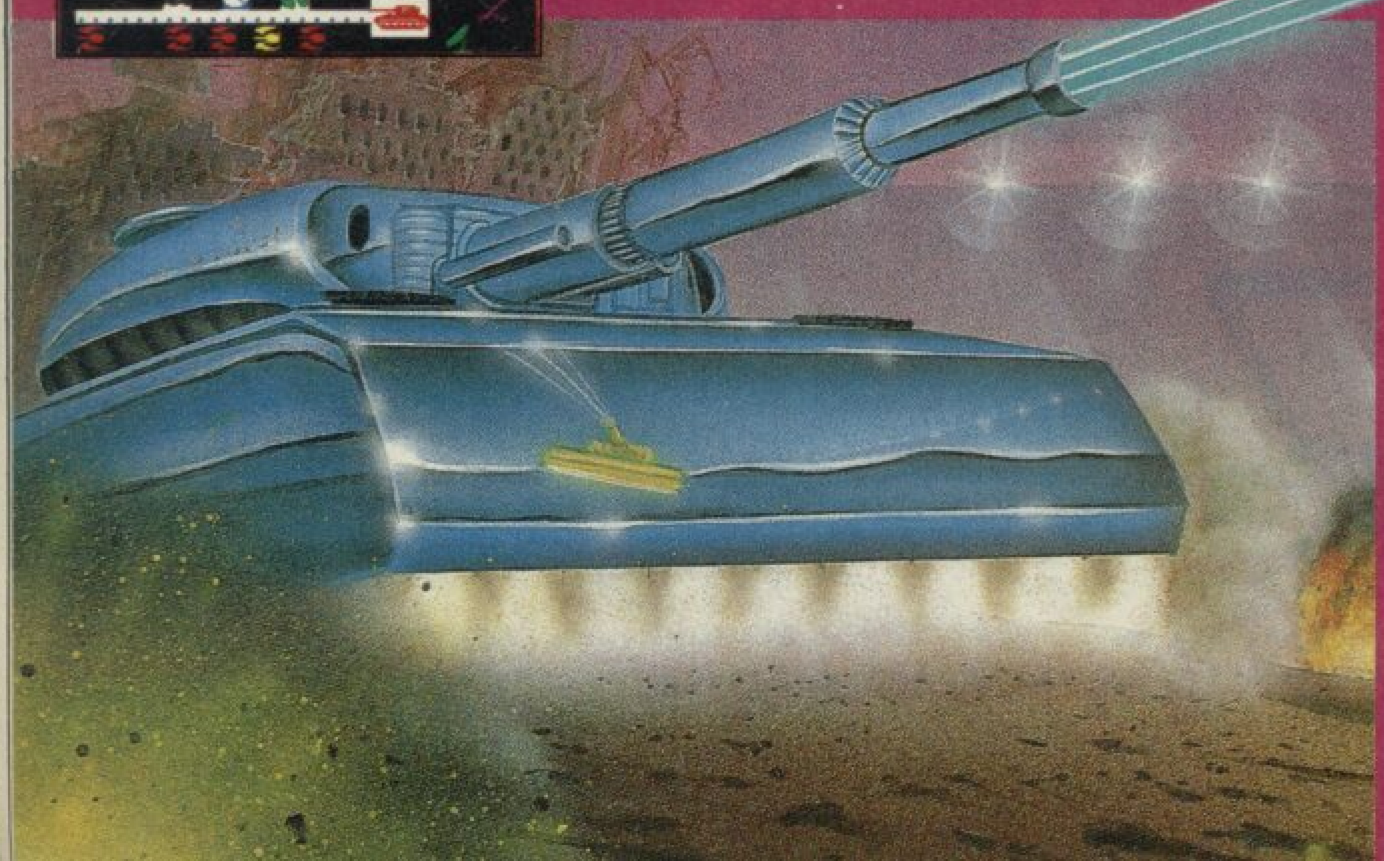
You're into the arcade action, and while it's not the most sophisticated **Battlezone** available the graphics work well enough, although there's a lot of empty space round trees, buildings, and other tanks. It's up to you to get the enemy without wasting valuable shells, and if you have other tanks in the area, don't make the mistake of hitting them instead. The accompanying manual suggests a quick tank recognition course first.

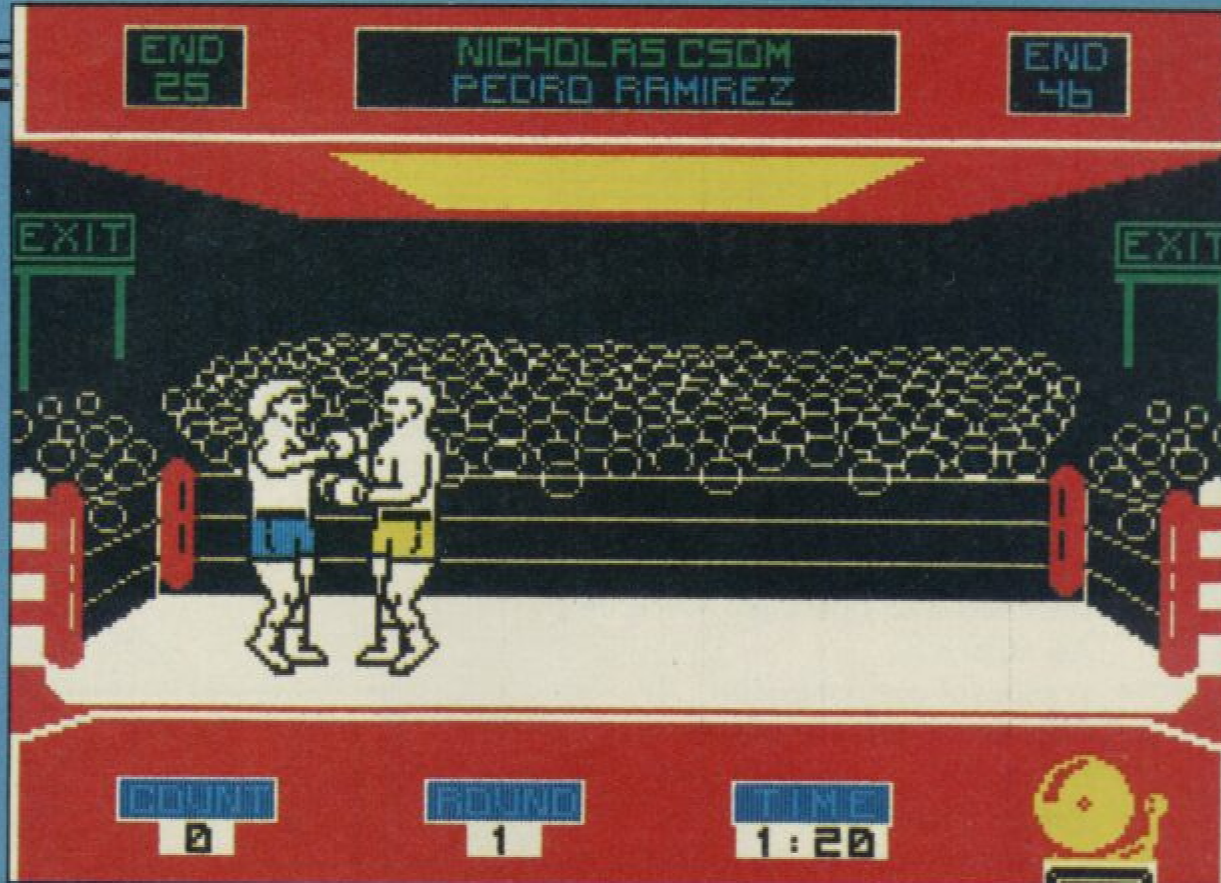
Luckily nothing else will attack while you're locked in one-to-one combat. The worst that can happen, unless your command vehicle is involved, is that one of the little tanks will vanish and the view will be replaced by the map. In any case, there's no time to lose with new paths to set and plans to hatch.

Lothlorien has thoughtfully provided a challenge mode, which serves rather nicely for practice, and you'll need it if you're to get the best out of **Arena**. But despite its complex appearance it doesn't take long to get into, and while purists from either the strategy or the arcade camps are unlikely to go for it, I'm sure the many in between will love it. It certainly gives an old mindless shoot 'em up a kick in the pants by adding a brainy element.

Jerry Muir

Publisher Lothlorien
Price £9.95
Memory 48K
Joystick Kempston, Sinclair, cursor
★★★★★





Barry McGuigan World Championship Boxing

THERE'S big money in boxing. I know 'cos I've personally beaten the hell out of such bullish boxers as John Kid Kutter, Bashin' Bill Snow and Cannonball Corby.

The boxing circuit consists of nine rising pros and ten contenders. On top of that lot is Barry McGuigan, world champion, with annual earnings of more than $13,000,000 — if you didn't know. To get to McGuigan you must move from 19th position in the rankings to number one; you will then be ready for the title fight.

First you must pick the name of your boxer.

When you've decided, the computer will be presented with a ready-made boxer who can go at the bottom of the list of professionals or contenders, depending on how strong and confident you are.

A status screen about your boxer is put up at the beginning of the game and after every fight. At the top is your boxing style and you are placed into one of eight categories such as Dancer, Slugger, Bulldog and Boxer. The mixed style seems the most ideal, especially with contenders who like to slug it out and the unpredictability of your movements can make more of your punches count.

Before each bout you must train for a specified time — the number of weeks left before the fight. There are five types of workout and you must allocate time proportionally to those exercises.

Each type of training develops an aspect of the boxer's potential. Road work will help build stamina, the light bag will build agility and the weights will increase your strength. In general you should put as many weeks onto the heavy bag, spar time and road work as possible.

To win on a knockout you will need to do some heavy punching around your opponent's head with a couple of jabs to his stomach. The emphasis is on the number of punches which find their mark.

The jab is a quick punch and an efficient point scorer but does not do much damage, unlike the hook which similarly does not take much out of the deliverer but gives the recipient a nasty knock on the jaw.

The uppercut also delivers a blow to the jaw but it is more dangerous than the hook and is a natural follow-through for a knockout. Last, but by no means least, is the cross — a knockout punch of incredible power. It should be used with caution as it is tiring to make.

The other form of attack is aimed at tiring your opponent. Body shots are important in draining his endurance and because of the way in which they are more powerful than the head blows. Unfortunately they drain a lot of your energy, too.

If you decide that defence is better than attack for your boxer — if he has a low strength factor but high agility — you can go for the cover-up or auto-defence. Cover-up happens automatically when you press up on the joystick or keyboard. The boxer's gloves will cover the face stopping any punches from your opponent. You cannot duck and weave when your face is covered and, of course, the rest of your body is exposed.

The simplest form of defence is the auto mode. Just leave the joystick or keyboard alone for a moment and the boxer will go into auto-defence which protects you from body blows. Unlike the cover-up, you will be able to move around the ring, protecting yourself by staying out of reach.

The authors, a new team of programmers, have included some tips for the potential world boxing champion — who says that programmers don't play their own games?

They have discovered two overall strategies which pay off if you can stand up long enough. The first is to try and hurt your opponent to the point of knockout. I found that this strategy loses you endurance points very quickly and dozens of quick punches aren't healthy for the deliverer.

Alternatively, you can try and win on points. Each round has a points rating of one to ten for each of the fighters. If you can capture the points on a majority of rounds you can win without going to the point of knockout.

Barry McGuigan World Championship Boxing scores as the best boxing game on the market. For realism, it knocks the others for six. It is more complex than **Frank Bruno's Boxing** and **Rocco.** Bruno has to win only eight bouts, while Gremlin's **Rocco** has just three opponents.

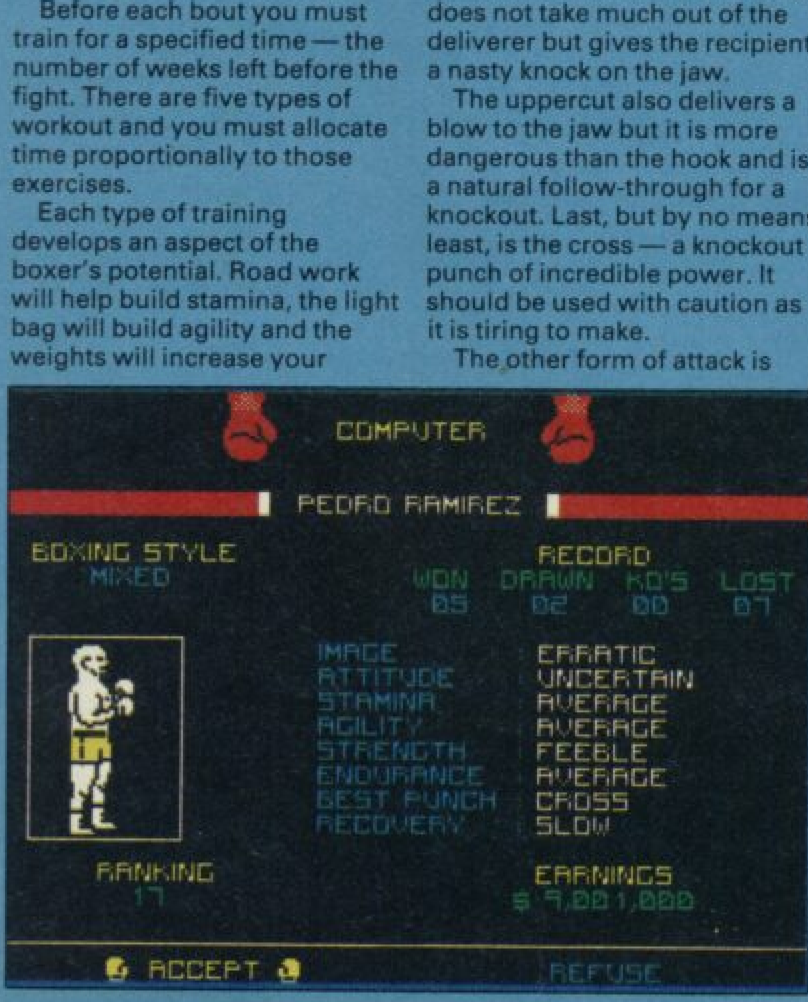
The graphics of both games have their fighters head on rather than in profile. McGuigan's game has full figure graphics which are flexible and realistic down to the camera flashguns going off on a knockout.

Knockout, from Alligata, which features full figure graphics, does not contend with Barry McGuigan. The fighters look like stuffed dolls, there is no audience to give the game atmosphere and the ring looks flat and lifelike.

Sports simulations are usually not my scene but Barry McGuigan knocked me flat.

John Gilbert

Publisher Activision
Programmer PAW
Price £7.99 **Memory** 48K
Joystick Kempston
★★★★★




LORD OF THE RINGS
GAME ONE
AT LAST! The eagerly awaited sequel to the fabulous classic "The Hobbit" is now available. "The Hobbit", classed as 'the ultimate adventure game of all time', was just a taste of what you can expect in LORD OF THE RINGS.
Astonishing vocabulary, graphics and more locations than you could imagine possible!
LORD OF THE RINGS Game 1 is available on C64, BBC, Spectrum and Amstrad at £15.95. This stunning package includes two cassettes, large booklet and a copy of "The Lord of the Rings" Part 1.
MELBOURNE HOUSE

Software

Think!

IT'S NOT OFTEN you find a new strategy game — most are direct copies of old fashioned board games. **Think!** from Ariolasoft has the advantage of being designed for a computer, and although it would be possible to play without one, it would certainly be difficult.

Designers David Bishop, Don Hughes and Chris Palmer have produced a variant on the four-in-a-row group of games where you have to construct a line of four counters on a grid. **Think!** differs, however, by producing some radically new strategies for winning, by the addition of some novel rules.

There are only four rules in all. Counters can only be placed on the bottom row or right hand edge of the six-by-six board. When a counter is placed on the board, it pushes all the other counters on its column or row one space further along — the spaces shift too.

Counters can be pushed off the edge of the board and are then lost, and although the winner is the first to get a line of four, if he gives his opponent a line at the same time, he loses.

Simple, eh? It is indeed, but the problems start with visualising the state of the board a couple of moves ahead, when whole lines can shift. It's very easy to give the game away by overlooking a move.

You'll have gathered by now that I'm rather taken by the game, not least — perhaps — because I screwed a resignation out of designer David Bishop a few weeks ago. But the game would be nothing without the fine implementation by the programmers of Ramjam, Ariolasoft's in-house team.

The game can be played via joystick using an icon system which is very clear, and offers a wide number of options. There are seven levels of play, although after level five the response gets very slow.

You can opt for single, double, tutorial and problem mode. The tutorial mode scores according to the speed with which you find the best move. It's only really useful above level four, as it tends to suggest moves which can lead to perpetual stagnation. The problem mode comes with a library of 'mate in two' problems which should test your ability to spot some of the more subtle tactics in the game.

You can also redesign the colours of the pieces, switch the sound on and off, watch the computer checking out its best moves, get hints, replay old games and all the usual options associated with good Chess and Othello programs. Play is very fast for the first three levels, and fast enough on the next two — the computer can analyse its position much better than you, and plays a mean game at higher levels.

For strategy fans, **Think!** is well worth trying. While it's still hard to see whether the opening player has the advantage, some opening moves and strong positions have already been identified.

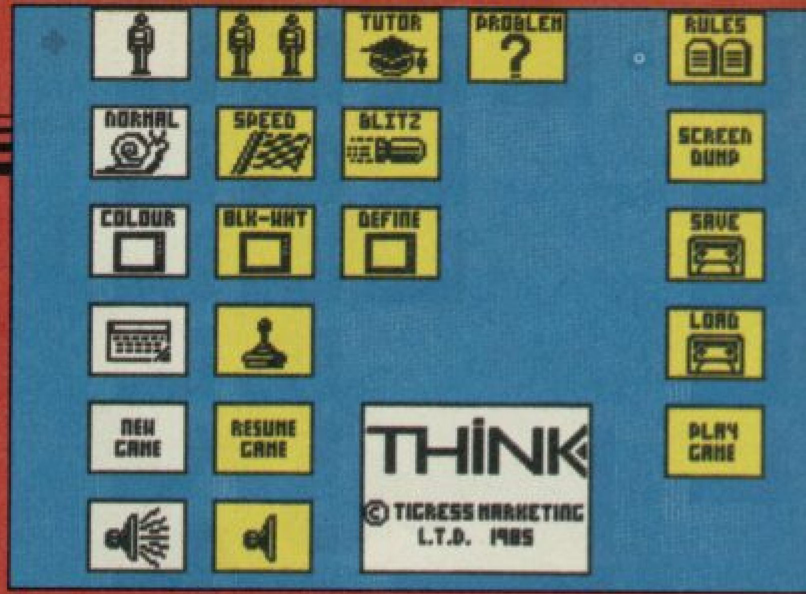
For example, a counter on F or 6 is usually a good opening move, worth playing early. Strong formations include a T-square — three in a row with one piece underneath the centre — or counters on 4,5,D and E simultaneously. Those will prove winning formations if you play wisely.

As well as those positions, try to build up forces around D4 and E5, which will later get shunted further afield to provide useful points for diagonal rows. As with games like chess, a direct assault is likely to fail compared to efforts to disguise your tactics and suddenly unlease several threats.

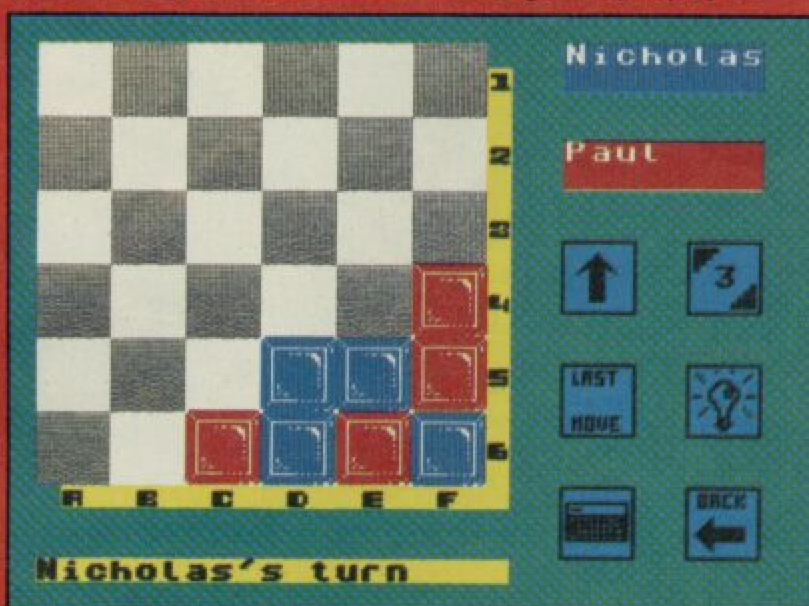
In the position shown, where blue must play and win in two moves, blue can threaten to win with counters on C, D, E, F, and 6, but only the counter on six generates enough threats to win immediately. The others rapidly lose the initiative to the red player.

That subtlety of tactics becomes overwhelming with a full board, particularly when it is only possible to survive by using the rule about not making a line for your opponent.

Full marks, then, to Ariolasoft and Co for a demanding, intriguing game. Let's have some letters about opening tactics from those of you who find **Think!** as much fun as I have. *Chris Bourne*



The menu with icon-selection. You can even print out positions.



Blue to play and win in two moves . . .



. . . Blue plays a counter to 6 and now red has no move left. Blue threatens to play D but any red move to prevent that will give blue a new line of three to complete.

Publisher Ariolasoft
Price £7.95
Memory 48K
Joystick Kempston, Sinclair,
★★★★★

VISA ACCESS

SPEEDYSOFT

01-846 9353 (24 HRS)

EUROCARD MASTERCARD

WE ALWAYS TRY TO SEND YOUR PROGRAMS ON THE SAME DAY WE GET YOUR ORDER, THAT'S WHY IT'S CALLED SPEEDYSOFT! All programs normally in stock before we advertise them! FOREIGN ORDERS WELCOME, satisfied customers in 64 countries for 3 years. UK prices include VAT: export prices are the same, plus p&p, because of the extra work involved. Pay by sterling cheque, bank draft or postal order. All orders must be prepaid: we send your programs as soon as we get your money! It's faster to order by phone from any country with your VISA, EUROCARD, MASTERCARD or ACCESS. Call 01-846 9353, 24hrs, 7 days a week. ALL PROGRAMS FOR SPECTRUM AND SPECTRUM +. BIG FREE ILLUSTRATED CATALOGUE WITH EVERY ORDER: DETAILED REVIEWS, LOAD TIMES, WHAT THE CRITICS SAID, ETC.. Catalogue includes all the classic 'serious software', too. Send £1.00 (refunded with your first order) for catalogue only. TWO FREE BLANK TAPES OR ONE FREE MICRODRIVE CARTRIDGE IF YOUR ORDER FROM THIS AD COMES TO £30 OR MORE, excluding p&p. State choice on order form.

"... A SERVICE THAT IS AS RELIABLE AS YOUR PROGRAMS"
(J. Noppen, Belgium)

WHAM!

"Wham!-The Music Box is as serious a piece of software as Tasword or The Quill and it's responsible for the music on Fairlight and the Exploding Fist." (Sinclair User) A totally new music creating program for your Spectrum. For the first time, real two-channel music and percussion effects. Includes demo of 5 Wham! hits: Freedom, Tropicana, Careless Whisper, Young Guns Go For It and Bad Boys. Easy to use. No Stick. (Melbourne House) **Cassette £9.95**

NATO ALERT

A wargame simulating a non-nuclear conflict in Europe between NATO and Warsaw Pact forces. 1 or 2 players, 5 skill levels. Up to 21 different objectives may be chosen, to determine length of play. Complex, horrifyingly realistic. Map graphics help. Hints given, too. No Stick. One of our most popular programs. (CCS) **Cassette £5.95**

LORD OF THE RINGS

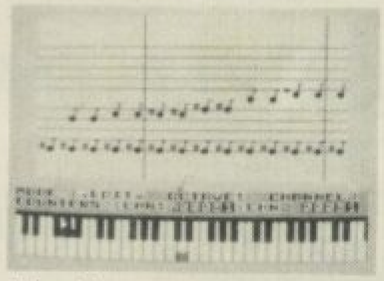
The program everyone's been waiting for, from the Hobbit team. 800 word vocabulary in this beautiful graphic adventure. Over 200 locations. Twin cassette pack plus copy of the 530-page book 'Fellowship of the Ring'. **Cassettes/Book £15.95/ 'The Hobbit' itself still available for only £12.95 (save £2.)**

TOMAHAWK

"A superb simulation, with plenty of action." (Sinclair User) "While conventional aircraft simulations are ten a penny on the Spectrum, this is distinctly different and it boasts the added advantage of armed combat ... controlling the machine is surprisingly simple." (Popular Computing Weekly) "All helicopter characteristics are faithfully reproduced ... much more accessible to the casual player than Fighter Pilot." (Your Computer) Sticks OK. (Digital Integration) **Cassette £9.95**

THE ART STUDIO

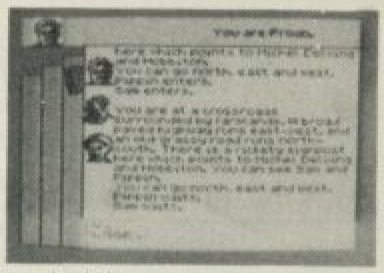
"This program really makes the Z80 chip sing ... performed just like MacPaint on the Macintosh." (Personal Computer World.) "Outperforms 'The Artist' in almost every way. It has superior speed and the menus are easier to use ... contains a printer driver which handles most Spectrum compatible printers. It is an extremely powerful utility which should be of use to professional artists and designers as well as the home user." (Sinclair User.) AMX Mouse compatible,too. Fantastic new drawing package. (Rainbird) **Cassette £14.95**



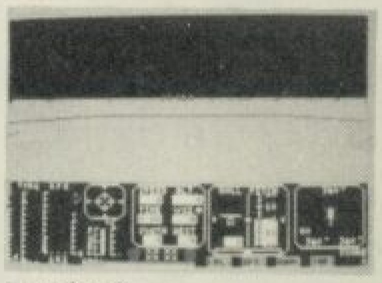
Wham!



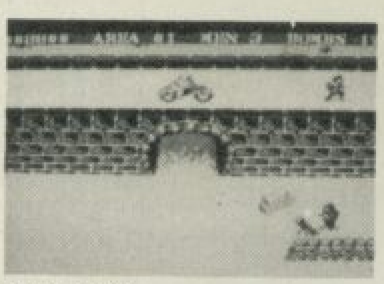
Nato Alert



Lord of the Rings



Tomahawk



Commando



Yie Ar Kung Fu

COMMANDO

Thrilling chart-topper based on the arcade hit. Your are Super Joe, crack combat soldier. You must defeat the rebel forces with your machine gun and six hand grenades, until you collect more from the outposts you defeat. Great graphics and sound. Sticks OK. (Elite)**Cassette £7.95**

QUILL/ILLUSTRATOR

"Simply brilliant .. put a lot of work into The Quill and you can write a game as quick and slick as any on the market." (BigK) Write and sell your own machine-code graphic adventures with these two amazing utility programs from Gilsoft. The Illustrator allows full-screen hi-res pictures to be added easily to the adventures you've written with The Quill. The two programs, now only £22.95 together. Add The Patch for £6.00 for split-screen text/graphics and some interesting sound effects, too!

GAMES PLAYER

Slow down and live longer with this combined joystick interface and game speed controller. It runs any software which works with a Kempston stick. Microdrive compatible, too. Make any game run as slow as you like, or freeze the screen to photograph the high-score table! Simply plugs onto the back of your Spectrum. (Dk'Tronics) **Games Player Interface £12.95**

YIE AR KUNG FU

Probably the best of all the kung fu games. Double-sided tape. To become a grandmaster, you must load and defeat 8 opponents, each more deadly than the last. 10 different attack moves to learn. Great graphics. Sticks OK. (Imagine/Konami) **Cassette £7.95**

MONOPOLY

"An excellent simulation ... vastly superior to the other, non-authorised versions ... the graphics are very realistic." (Home Computing Weekly) Official Monopoly, with 3D board view; for 2 to 6 players any or all of whom may be the computer. Specify length of game if you wish. No Stick. (Leisure Genius) **Cassette £9.95**

NOW GAMES 2

Another great compilation tape. **AIR WOLF (Elite) CHUCKIE EGG 2 (A&F) TIR NA NOG (Gargoyle) CAULDRON (Palace) WORLD CUP (Artic). Cassette £8.95.** NOW 1 still available with Lords of Midnight/Brian Bloodaxe/Strangeloop/Pyjamarama/Arabian Nights/ Falcon Patrol2. Cassete £8.95. Or buy both tapes for just **£16.95**

"EXCELLENT CATALOGUE AND EXTREMELY FAST SERVICE"
(A. Ammundsen, New Zealand)

MICRODRIVER Mk2

PERFECT TAPE/MICRODRIVE TRANSFER AT THE PRESS OF A SINGLE BUTTON! *"Menu-driven, very easy to use and well error-trapped ... I much preferred the Microdriver." (Your Spectrum)* Dumps the whole of memory to microdrive. Save and reload *any* program. No use to pirates as Microdriver must be present to RUN Saved programs. Specially designed ROM fits onto the back of your Interface 1 or 2. Through connector for add-ons.£39.95.
Microdrive cartridges available in packs of 4 for only £8.00. Or 20 cartridges in a stylish black plastic filing box only £35.95. The Mirage Microdriver: £39.95

WINTER SPORTS

Great new joystick waggler with eight very different and very well planned sporting simulations loading separately. Downhill. Slalom. Giant Slalom. Ice Hockey. Ski Jumping. Speed skating. Bobsled. Biathlon. Very good value. Sticks OK. (Electric Dreams) **Cassette £7.95**

POST TO: SPEEDYSOFT (SU39)
37 CHURCH ROAD, LONDON SW13 9HQ, ENGLAND.
For CATALOGUE ONLY, send £1 cash. Refunded with your first order.
My computer is .... I enclose a cheque/PO payable to SpeedySoft OR charge my VISA/ACCESS/EUROCARD/MASTERCARD

No. [ ][ ][ ][ ] [ ][ ][ ][ ] [ ][ ][ ][ ] [ ][ ][ ][ ]

Signature: .... Expiry Date ....
Please write clearly. If we can't read it, you won't get it.
Name: ....
Address: ....
....
Postcode: ....
PHONE NO: if any, in case of query ....

Program Name	Price
Postage & Packing UK add 75p per order	
Europe ADD £1.00 per program	
Outside Europe ADD £1.50 per program	
Total Order	


DYNAMITE!
HOT
RASPUTIN
FIREBIRD
HOT
RUNESTONE
FIREBIRD
Ivan the Crusader's epic quest to end Rasputin's evil reign puts this isometric multi room arcade adventure in a world of its own.
The evil Orcs ravage the land of Belorn – you control the only characters who can save it. Stunning landscapes plus intriguing adventure in 'Venturescope'.
HOT
HOT
gerry the germ
FIREBIRD
HOT
COSTA CAPERS
FIREBIRD
Crazy multi-screen adventure – failed Germ Gerry proves his worth by laying waste to his victim's body – until he reaches the heart...
Ted's Great Summer Blow-Out – over 40 whacky screens as he tries to avoid sunstroke, drinks like a fish and blows all his hard-earned money!
Four great, sizzling games from Firebird – the all-new Hot Range. Available for the Spectrum, Commodore 64 and Amstrad – see them at all good computer stores now!
FIREBIRD
FIREBIRD SOFTWARE WELLINGTON HOUSE UPPER ST. MARTIN'S LANE LONDON WC2H 9DL
FIREBIRD IS A TRADEMARK OF BRITISH TELECOMMUNICATIONS plc
MAIL ORDER
Please state name of game, machine, cassette or disk and quantity required. Enclosed crossed cheque/PO made payable to FIREBIRD SOFTWARE. All offers are subject to availability. Orders are despatched promptly. All prices inclusive of VAT and postage.
MAIL ORDER: AUNTIE KAY, *FREEPOST FIREBIRD, WELLINGTON HOUSE, UPPER ST. MARTIN'S LANE, LONDON WC2H 9DL.
*No stamp required.

Three Weeks in Paradise

TIRED of the Weeks yet? No? Just as well, because you're about to be inflicted with Wally, Wilma and Herbert — and an assortment of truly awful puns — yet again.

Three Weeks in Paradise, Mikro-Gen's fifth in the Wally saga, continues the adventures of the computer world's most accident-prone family. What was supposed to be a holiday on a magic island has turned into a nightmare — Herbert and Wilma have been captured by the Can Nibbles — groan — and Wally must rescue them, build a raft and escape into the sunset.

The game seems simple enough at first. Rescue Herbert from a boiling pot, where he is guarded by two ferocious lions, and cut Wilma down from a tree. She is next for the pot and has been strung up by her heels to ripen — rather like a game bird.

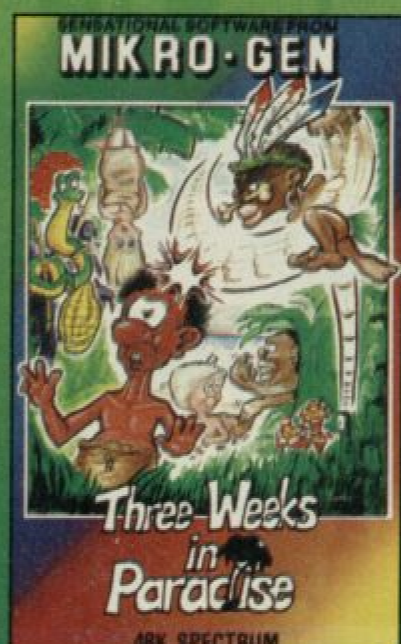
The island, although jungle at first sight, has many landscapes — beaches, underwater scenarios, a frozen forest and a few others which are so well hidden it would be a shame to spoil your fun.

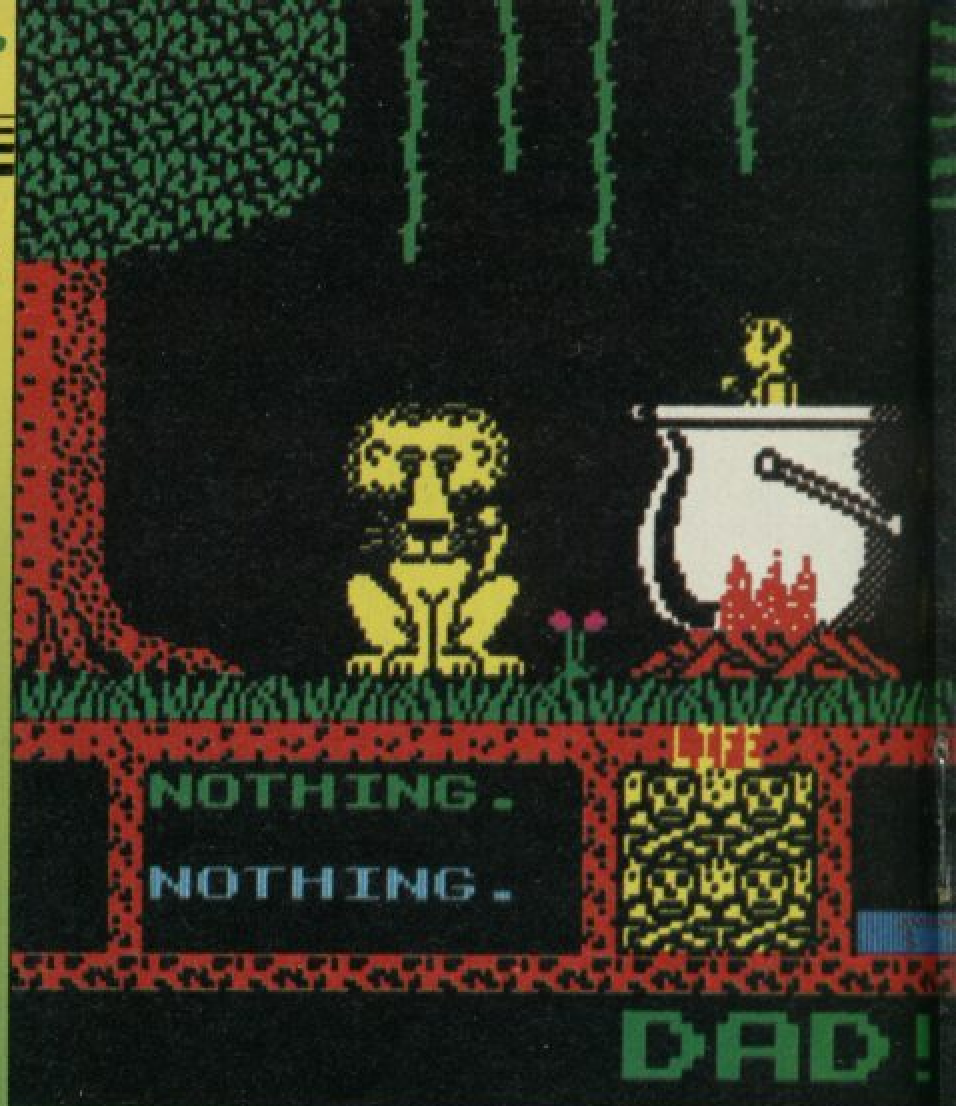
Patrolling the jungle is an indian chief — a malevolent little chappie who takes random swipes at Wally to kill him off. You never know when he's going to hit out, so the best idea is avoidance or failing that, to jump over him. Also on the jungle scene are bats, bees and butterflies — slow flying beasties and easy to avoid.

The game is played from left to right and vice versa. Gateways in the foliage signposted 'in' lead to further screens. So, viewed from afar, **Three Weeks in Paradise** resembles a series of layers, one in front of the other. Occasional screens may be hidden up and down so leave no stone unturned and remember, other things besides clouds lurk in the sky.

The idea is to explore the island thoroughly, making use of a diverse number of objects to solve the devious clues necessary for Herbert's and Wilma's release. The problem lies in the fact that you can carry only two objects and yet three or even four articles may need to be found and used in the correct order to gain entrance to a hidden screen, or to enable you to pass a statuesque guardian — like the stone lions.

If you're going to get anywhere, that means a logical thought process, and a twisted mind. For instance, what's the bowl of stuffing for? Why has the mint got a hole in it? Why is the crocodile grieving for its lost handbag? How do you sharpen the blunt axe? Those are just a few of the teasers.





To find out why the crocodile is feeling so snappy, you have to find the handbag which lies across a sea of quicksand. How do you get over the quicksand? — the answer lies elsewhere.

Three Weeks in Paradise is likely to drive you bonkers. All is saved, however, by the remarkable picture-book graphics. Colourful and superbly drawn, it is difficult to believe that David Perry, the author, has no design experience. No wonder the game took over six months to program, although apparently there are special routines for the graphics, programmed into another computer and then downloaded to the Spectrum to save memory.

You are given some help in the game. Scrolling messages appear under some screens offering a variety of cryptic clues. On the screen containing a hut and one of the Flintstone's cars lies the message, 'You've got to be a sharp cookie to understand this clue'. I was so sharp, I tried picking a flower and attempted to make a cookie over a fire, in a goldfish bowl, with oil and water. Needless to say, I was on the wrong track. The clue is telling you to sharpen the axe, but you'll need some ingredients to do that.

Think back to the tale of Androcles and the Lion for a clue to pacify that surly beast guarding Herbert. You'll need to draw out the thorn, but you'll want some tweezers. Go and speak nicely to the crab who may need some persuasion — hot water, for instance.

How do you get the Rain God to dance? Try burning ashes, but first you'll need to make a



Wally recovers from a fall, and the frog croaks in sympathy



The objects Wally has collected

Above: a fire waits to be kindled — pay a visit to the crocodile. Below: a description of articles picked up



fire and something to blow it up. Check it out with the croc and search the well. The answer to Herbert's release lies in the clouds. Blow them aside and watch the sparks fly. Another trip to the well would be advisable at this point.

After working out how to cross the quicksand, go for a dip in the ocean — Wally's doggy-paddle is quite amusing. Dodge the fish and seahorses and locate Davy Jones' Locker, the key to which lies elsewhere, located through a hole in the wall and well-guarded. Pull the plug on the seabed and you'll find yourself in a strange volcanic region. More clues here, perhaps?

Back on dry land lies Old Faithful, a geyser. The geyser works like a toilet — find the creeper to flush it and the water starts spouting. An eagle's nest lies above the geyser, but to get to it you must first pay a visit to Davy Jones' Locker. Once in the eyrie, you might be able to play red indians.

The masking effect in Three Weeks is excellent. Wally will disappear completely behind some objects, so that if you were to pause the game, you would not be able to see him at all. Some objects are hidden in the same manner so search diligently. When you've found the mint, take it to the frozen forest and locate the hole — Fox's Glacier Mints might be a helpful clue. Once you've found the hole be careful not to lose it — it's a black sphere! If you place it in front of something black or drop it behind a column, you may never relocate it.

SINCLAIR USER CLASSIC



Wally starts his quest, avoiding swooping bats and beasts

Other than the flying nasties and the indian, Wally can be stunned by any number of seemingly innocent objects. Each time he is hit, he slumps to the ground, stars revolving round his head and then gets up rubbing his backside, and saying 'Ouch!'. The repeat performance takes time and quickly begins to pall.

In previous Wally games, comments have been made about the colour clash surrounding the characters. To keep everyone happy, David Perry has written in an option whereby Wally will take on the colour of every object he passes, thus getting rid of the clash by merging into the background. Personally, I was quite happy with the small block of colour which follows Wally around — it doesn't detract from the enjoyment of play in any way.

Music is another optional feature. You might be able to stomach the jingle for a couple of hours, but I found the silence easier to think in. If you do choose to turn off the music, you'll still hear Wally's footsteps as he patters about the jungle floor.

At the bottom of the screen is a dotted outline of a raft. As you solve each problem, the raft fills in until eventually, at the end of the adventure, it is solid. By that time, Herbert and Wilma will have been rescued and you can set sail. The score is measured as a percentage and that also helps.

Two skeletons stand at the bottom of the screen, their only movement being a spot of impatient foot tapping if Wally pauses too long. However, their places are taken by Herbert and Wilma when they are freed by Wally. Next to the skeletons are four skulls. Each time Wally gets killed, one of those disappears.

According to Mikro-Gen, **Three Weeks in Paradise** is harder to complete than **Herbert's Dummy Run**, or **Pyjamarama**, but marginally easier than **Everyone's a Wally**. I found it hard enough. The clues are devious, but not impossible, and once you know where certain objects belong, or what they do, you can look at the remaining articles and tasks, and try to work out some way of grouping them.

The graphics are large and colourful, the animation smooth. **Three Weeks in Paradise** is a pleasure to play. I would recommend it to any Wally mad enough to buy it.

Clare Edgeley



The skulls show the number of lives remaining

Above: Wally looks at an anvil. Can he pick it up? Below: The dotted outline of the raft. This fills in as the clues are solved

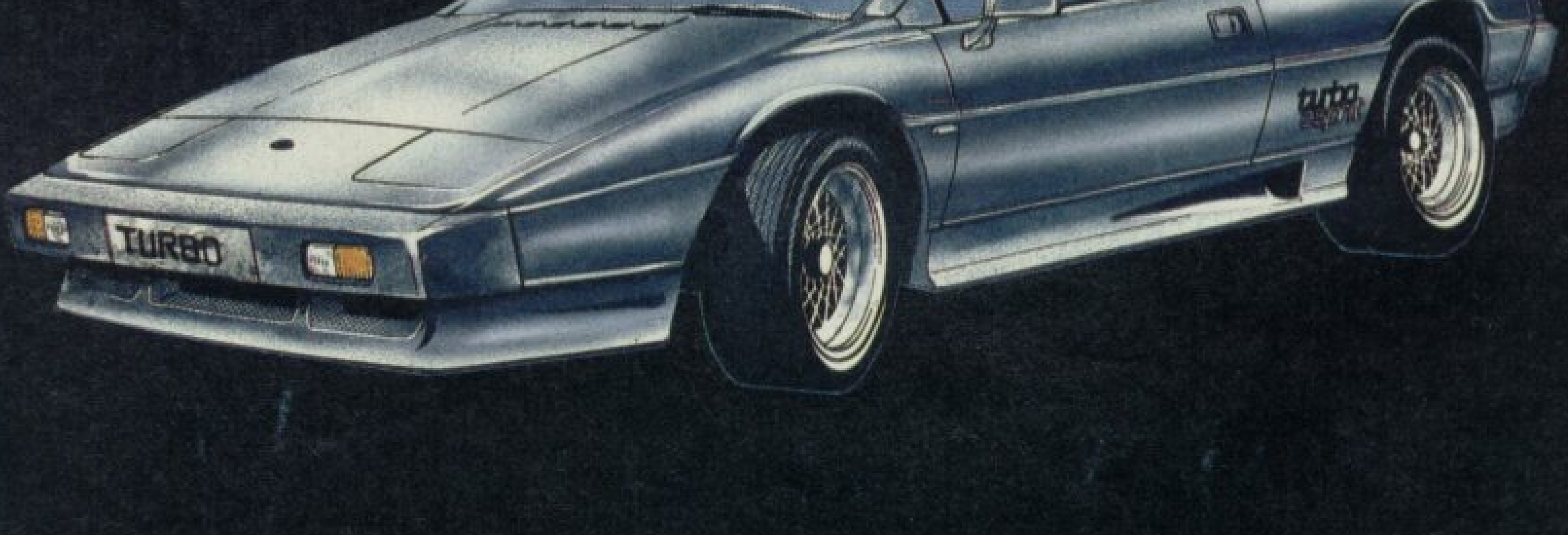
Herbert and Wilma replace the impatient, foot-tapping skeletons

Publisher Mikro-Gen
Programmer David Perry
Price £9.95 **Memory** 48K
Joystick Kempston, Sinclair
★★★★★

turbo esprit

DURELL

software getting harder



With Technical Assistance from Lotus Cars Ltd.

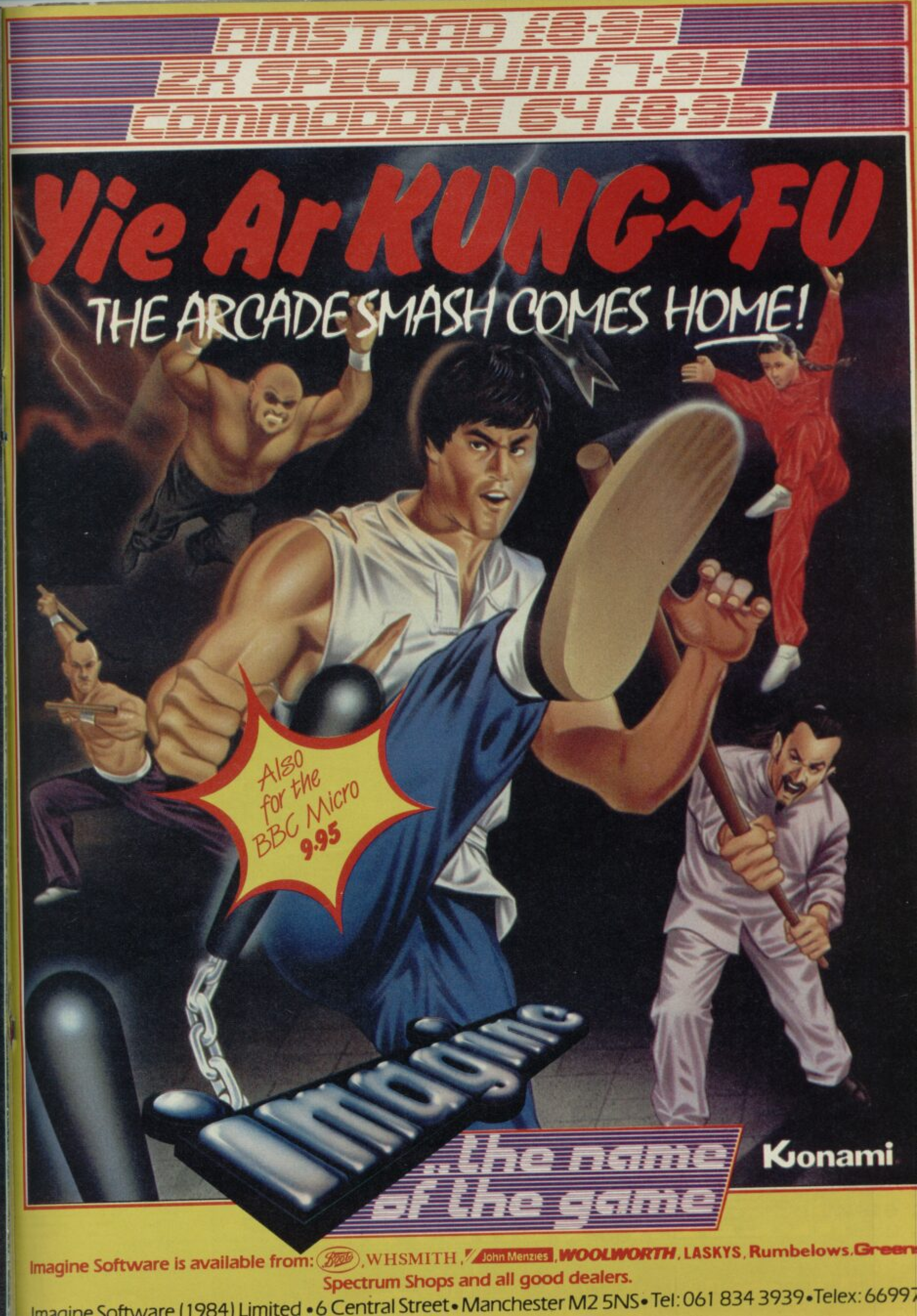


Spectrum and Amstrad

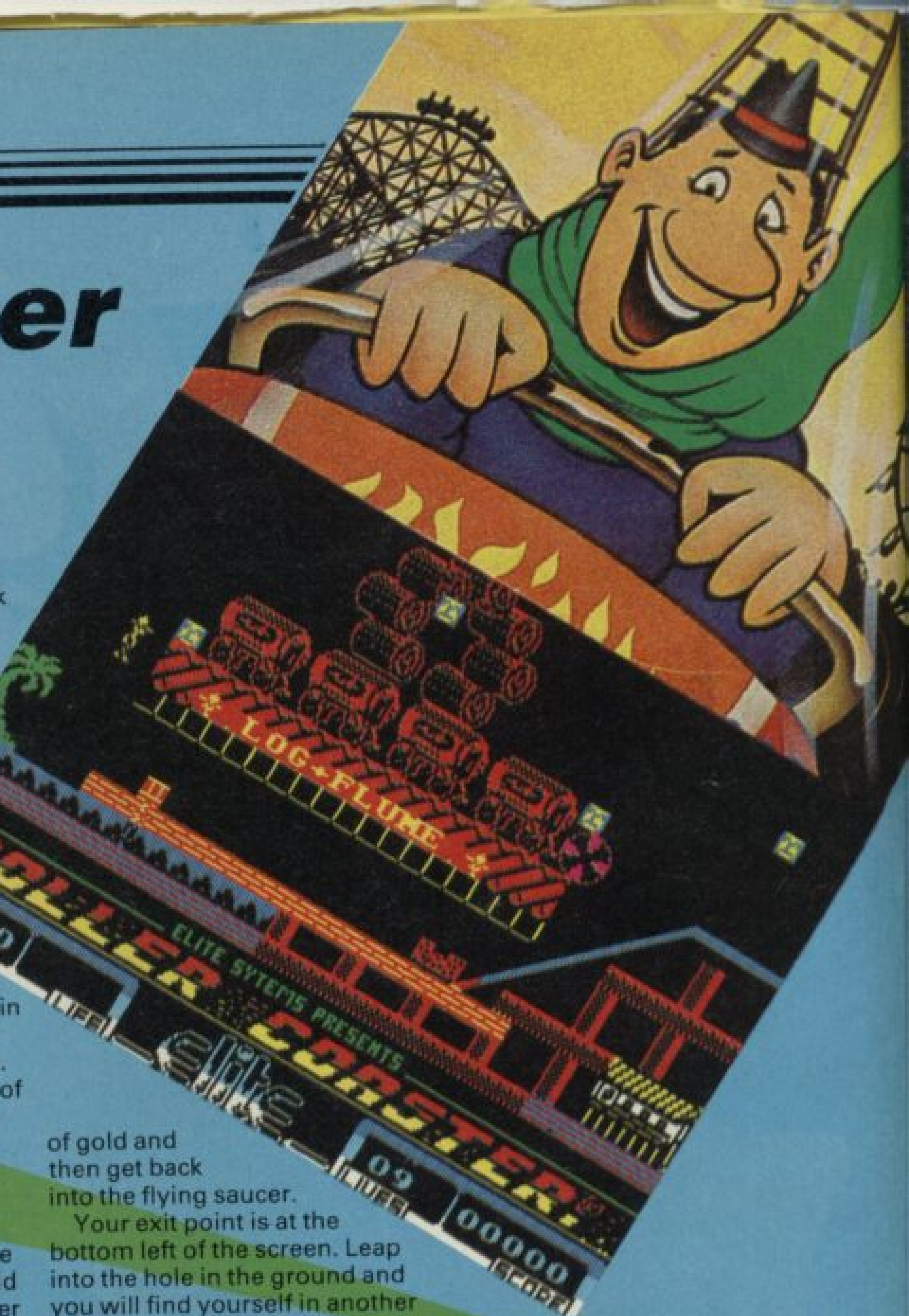
R.R.P. £8.95

DURELL COMPETITION
Entry Coupon
Cut out this coupon and send it with a completed entry form included with any of the new Durell games.

DURELL sales dept.
Castle Lodge, Castle Green, Taunton TA1 4AB


AMSTRAD £8·95
ZX SPECTRUM £7·95
COMMODORE 64 £8·95
Yie Ar KUNG~FU
THE ARCADE SMASH COMES HOME!
Also for the BBC Micro 9·95
Imagine
...the name of the game
Konami
Imagine Software is available from: Boots, WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Green
Spectrum Shops and all good dealers.
Imagine Software (1984) Limited • 6 Central Street • Manchester M2 5NS • Tel: 061 834 3939 • Telex: 66997

Roller Coaster



THE RIDE on this roller coaster is all work and no play, but the rewards are worth the effort. The glimmer of gold is in your eyes as you survey the fairground which is scattered with nuggets.

You enter the fairground perched on top of a group of kiosks from which you can jump in two directions. The first jump takes you to three pieces of gold which you pick up by moving over them. To reach them you will have to jump onto a circular lift, made of platforms which continually move upwards, and then through a waterfall. The water will knock you off your platform and reduce your ten lives by one.

A short hop onto another platform then onto the huts will give you two pieces of gold, a further long hop, up to the log flume sign will get you the last piece. Be careful not to fall into the trap of believing what the signpost says. Following the arrow to the edge of the screen will bring you crashing to your death.

To get to the next screen you must descend to the kiosks, jump into the boughs of the palm tree, and leap off the edge of the screen.

The log flume is on this screen — it's a long ride taking you across five screens. First, though, you must jump to a pile of logs which hold more gold pieces. Accomplishing that, jump down to the start of the ride — which is protected by a deadly turnstile — and wait for the log car.

Before you reach the end of the ride, on the final screen in fact, you should jump from the car and onto another log pile which again contains gold nuggets.

Jump up to the palm trees at the edge of the screen and walk onto the next. That contains a cafe with an umbrella which moves up and down, and a lift which revolves around a spinning wheel.

Falling onto the lift during its downward arc you can pick up a few points before jumping to the ground floor of the cafe to get to the next ride.

The house of fun is one of the most intricate rides in **Roller Coaster** — barring the waterfall lift on the first screen. It covers two screens, the first of which is an obstacle course, and involves moving across a jerky conveyor belt while jumping over red rocks and collecting gold.

By now your score should be pleasantly high, but you should not forget the rides on the other side of the start point. If you want to gain access to them you must go through the waterfall and enter the flying saucer ride which is a challenge to co-ordination.

Anticipation is the most important factor on the ride which consists of a circle of chairs whirling round the screen. You must jump onto one of those chairs, fly up to the palm trees, strip them of gold and then get back into the flying saucer.

Your exit point is at the bottom left of the screen. Leap into the hole in the ground and you will find yourself in another cafe with yet more chairs. Those are speeding round the screen at an incredible pace. Once you have given those a whirl you can jump to the ground and move on to the big wheels — a combination of whirling chairs and merry-go-rounds.

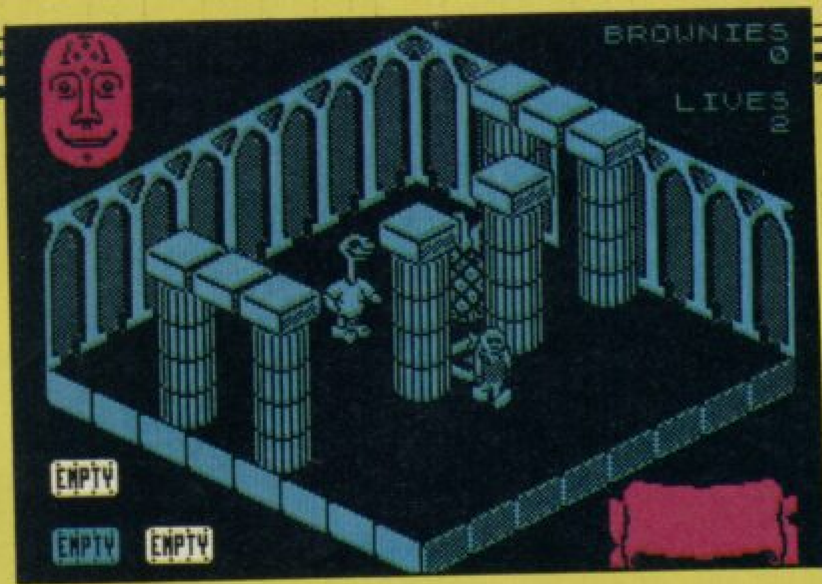
The mini-dodgems are next, and then you can float off down the river caves. You will be pleased to hear that you are near that famous roller coaster. However, it is a real disappointment, just another ordinary ride on which you collect gold points. It does, however, take a long time and alot of skill to get to the roller coaster. Perhaps the programmers thought of the ride as a reward rather than punishment

Although **Roller Coaster** has a simple, one objective plot the number and diversity of rides makes it entertaining and irritating — most of the action involves jumping or falling of some kind. The game bears a slight resemblance to **Jet Set Willy** as you must work out which way you should move around the screen. However, it goes further because your actions on one screen may dictate your death on another. Not all signs and exits are passports to other rides. **Roller Coaster** may seem an after-thought release by Elite, but it is way ahead of most of the Willy rip-offs.

John Gilbert



Publisher Elite
Programmer S. Brocklehurst
Price £5.99
Memory 48K
Joystick Kempston
★★★★





Sweevo's World

WHEN GARGOYLE steps down from its soft opera sagas such as **Dun Darach** or **Marsport** and indulges in a little light relief, the result is **Sweevo's World** — the last word in Ultimate lookalikes, and full of little jokes aimed at those heavy arcade-adventures **Knight Lore** and **Alien 8**.

SWEEVO stands for Self-Willed Extreme Environment Volitional Organism or some such nonsense. In fact, he's a very stupid robot sent out to clean up other people's messes. He has a short tubby body, an overlong neck, and is supposed to look a bit like Stan Laurel of Laurel and Hardy fame.

When you load up, you get a choice of four entry points, called Really Free, Lonesome Pine, Fingers and Apple Pie. Those mirror the standard Ultimate system of having four entry points to the game but in this case you get to choose — which makes mapping a lot easier. The names also alert you to the sort of humour you're likely to find. Lonesome Pine catapults you into a room with a single giant pineapple, while Really Free has three cotton reels in it. Real — reel, three — free, geddit? Oh, never mind.

The fruit motif — borrowed from some intergalactic fruit machine, with cherries and apples as well — is very strong. All fruit is deadly, and thus provides most of the main obstacles. You have to progress through the network of rooms dropping tins in strategic places to hem in baddies or give you access to other, more useful objects.

As you might have already guessed, there are four separate levels to the game. Those are interconnected with pads, which flip Sweevo upwards, and holes, down which he drops, gracefully opening an umbrella to parachute onto the floor below. Those ups and downs give the game much of its strategic play, because many of the puzzles are quite insoluble until you discover that there's a hole on the floor above which drops you on the other side of some impassable barrier. That is lots of fun to watch and also gives you the feeling that there's plenty of things to do if you can't solve a particular set of problems. I suspect, however, that a full solution to the game requires you to organise your movements rather more precisely.

After wandering about admiring the fruit I started to get into the problems. In typical Ultimate fashion, programmers

Rasputin

THE SPIRIT of Rasputin has risen from the multi-dimensional abyss and threatens this world, with chaos and darkness.

You have been selected to seek out and destroy the Jewel of the Seven Planets, which is the source of the evil one's power. To do that you must negate eight spells which have been cast in the name of Rasputin.

The combat arena appears to be an oddly shaped castle drifting within the confines of hyperspace. The rooms within it have been cobbled together from odd shapes found, no doubt, in **Knight Lore** and Firebird's own Silver Range game **Chimera**.

The graphics make it immediately obvious that this is another Ultimate lookalike but it would be wrong to tag it as a clone. If anything, it is more difficult to solve than **Knight Lore**, although more reliance is made on movement than puzzle-solving.

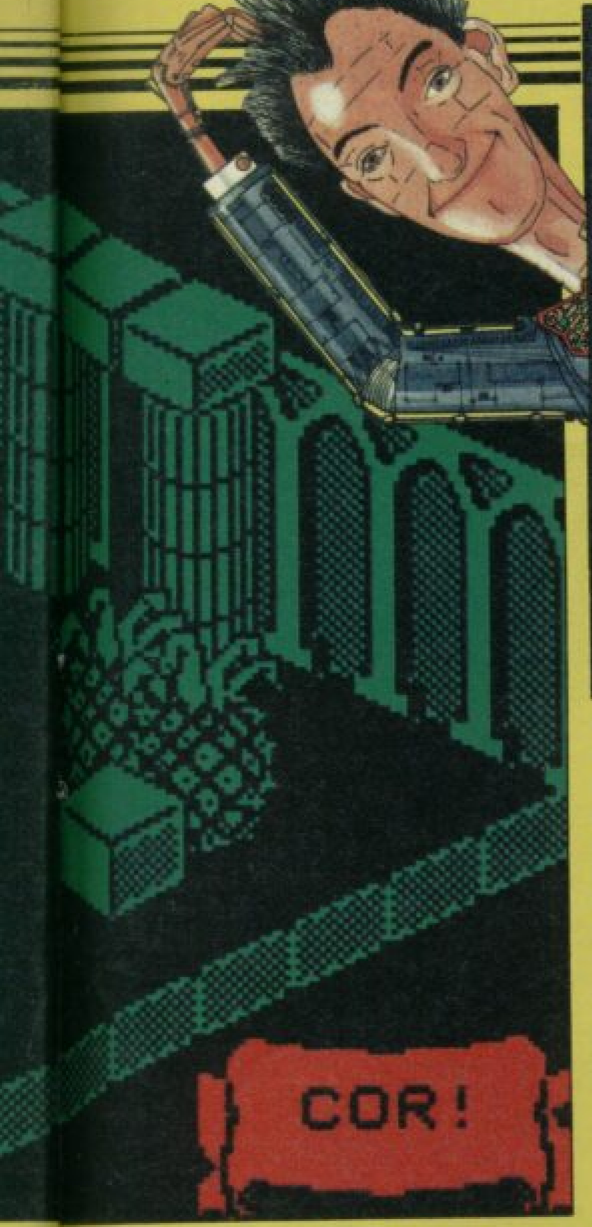
Programmer Paul Hibbard — author of **Buggy Blast** — has his own method of producing Ultimate type graphics, which he calls Hib Flix One.

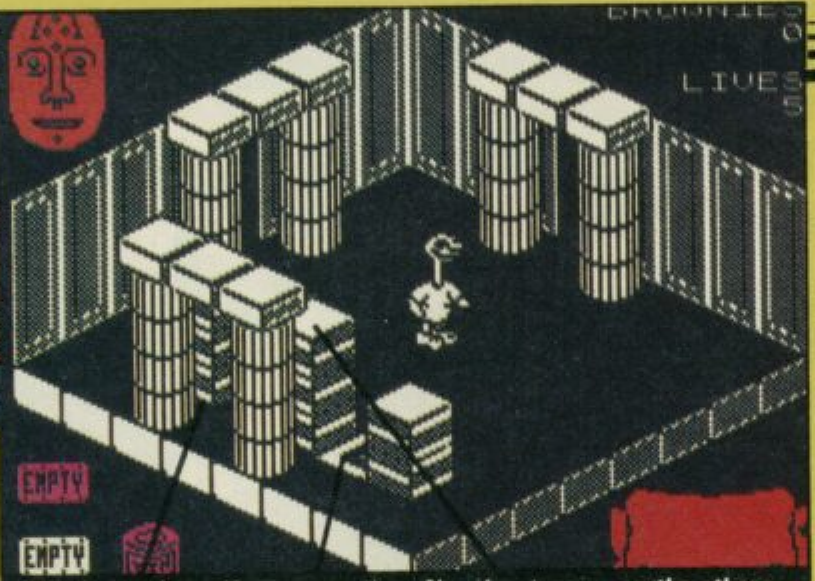
When play starts your character, dressed as a knight and holding sword and shield, stands in the courtyard of the castle. Unlike **Chimera**, in which the robot moves in only four directions, the knight of **Rasputin** can move in eight. That, of course, complicates joystick and keyboard operation. First you must orientate the knight in a chosen direction and then move forward.

In many of the rooms you must traverse narrow catwalks. If you fall off one, or drop off the edge of a room — there are no walls — you will plummet through space before landing on a cloud.

The computer then automatically bounces you back to the last room you were in. The length of the drop from room to cloud is important. As you rise back up points are deducted from your power rating which is shown as a red bar at the bottom of the screen.







Sweevo can't get through the door — it's blocked by a hidden trap . . . He steps on the lift and off at the low pillar, dropping the tin onto the lift . . . Now he steps on the tin and can reach the high pillar. He drops over on the other side and goes safely through the door. Easy, wasn't it . . .?

Greg Follis and Royston Carter have avoided telling you too much about what you're supposed to do. "Scoring is very complex and largely irrelevant," they say on the cassette insert, which just about sums up those silly percentages and points you get on **Underwurlde** which have very little to do with beating the game. In **Sweevo's World** you get marks for tidiness, a percentage, and also marks for Wijus wasted, Tyrants trounced, Minxes mashed and Geese ghosted. Also you can win Brownie points by, naturally, disposing of Brownies who sit in inaccessible places and brood, head in hands, completely motionless.

The WIJU is a Waste Ingestion and Janitor Unit — a disc-topped robot — which is your main target, but what will destroy it? The tyrant has a moustache and struts around with one hand waving in the air. No prizes for guessing who it represents — *Sinclair User's* own beloved publisher, I reckon. Then there's the horrible little girl, like a deranged Barbie doll, and the Goose which laid the Golden Erg. The Goose is the harmless one, and a source of energy if you can say "Boo" to it. Collect the Boos . . .

Other objects include teddy-bears and the famous **Knight Lore** boot. You'll have to work out which monsters the various objects deal with, and how to use them effectively. What you cannot do is push the objects around, Ultimate-style. But the problems are nevertheless very complicated when you take them as a series, although I found at least half-a-dozen immediately soluble ones when taken on their own. It's getting them in the right order and not wasting all your tins too soon which is important — some of the tins will be lost, and if you use them up in those places first then you're going to run out later on.

The graphics, in brutal comparison with Ultimate, stand up to the test very well. Although you cannot push things around, there are extras to compensate, such as the teleporting between floors and lifts which emerge from the floor to give you a leg up to some higher set of blocks. While there's less animation than in the Ultimate games, what there is is faster and smoother.

There are also plenty of surprises which I find much more entertaining than some of the awful puns Roy and Greg insist on stuffing into their games. Typically, things like lifts and teleports get hidden behind fruit or building blocks, so you can't see them until you step on them.

The most gruesome of all the motifs is the finger which pokes up through the floor in a whole number of rooms, turning apparently straightforward puzzles into difficult mazes. Then there are static guards which pop up and block off entrances or routes — those only disappear when you leave the room, which is then reset.

Gargoyle is calling this a special edition, and selling it at £2 less than the mainstream Gargoyle products. That's a bit of cheek as well, because it makes **Sweevo's World** £2 cheaper than the top-of-the-range Ultimate stuff.

What's the verdict then? While Gargoyle has not tried to emulate the full animation of the Ultimate games, with the movable blocks and variety of monsters, it has produced a much, much funnier game with quicker movement and a what-the-heck feel about it, which really does succeed in poking fun at the sometimes pretentious Ultimate sagas. Buy it and enjoy it and try not to take it all too seriously. *Chris Bourne*

Publisher Gargoyle
Programmers Follis/Carter
Price £7.95
Memory 48K
Joystick Kempston, Sinclair, cursor
★★★★★

Other indicators display the magical strength left in your shield and sword. The shield comes up in front of you at the press of one key but the sword is more difficult to use. You must press down two keys at the same time to attack one of the myriad creatures inhabiting the dimensions. That is a fatal problem if you have just noticed a guard or chameleon creature coming at you and you are not sure where to put up your shield or stick up your sword.

In your passage through the rooms, filled with too many monsters for comfort, you must find the rune stones with the mark of Rasputin on them. As you pick up each you will traverse the many dimensions of time and space.

The runes have been created by the Lords of Light, who knew that Rasputin might one day escape from the bondage spells they put on him. They will protect you against his powers.

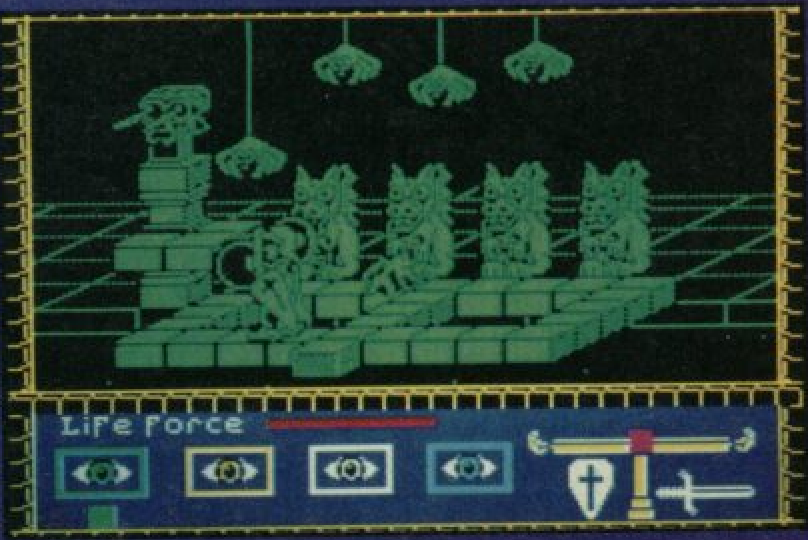
The final rune, and most important piece of magic, is called the Eyes of Heaven and it will protect you from Rasputin when, at the end of the game, he shows his mind in the form of a powerful creature of darkness. You will have to defeat it before you can reverse the spells.

Rasputin is a challenging game and is not unlike chess in the way each move has to be calculated. You will find that you cannot whizz through any of the screens quickly and may find that you have to spend 15 minutes on several before finding a rune stone.

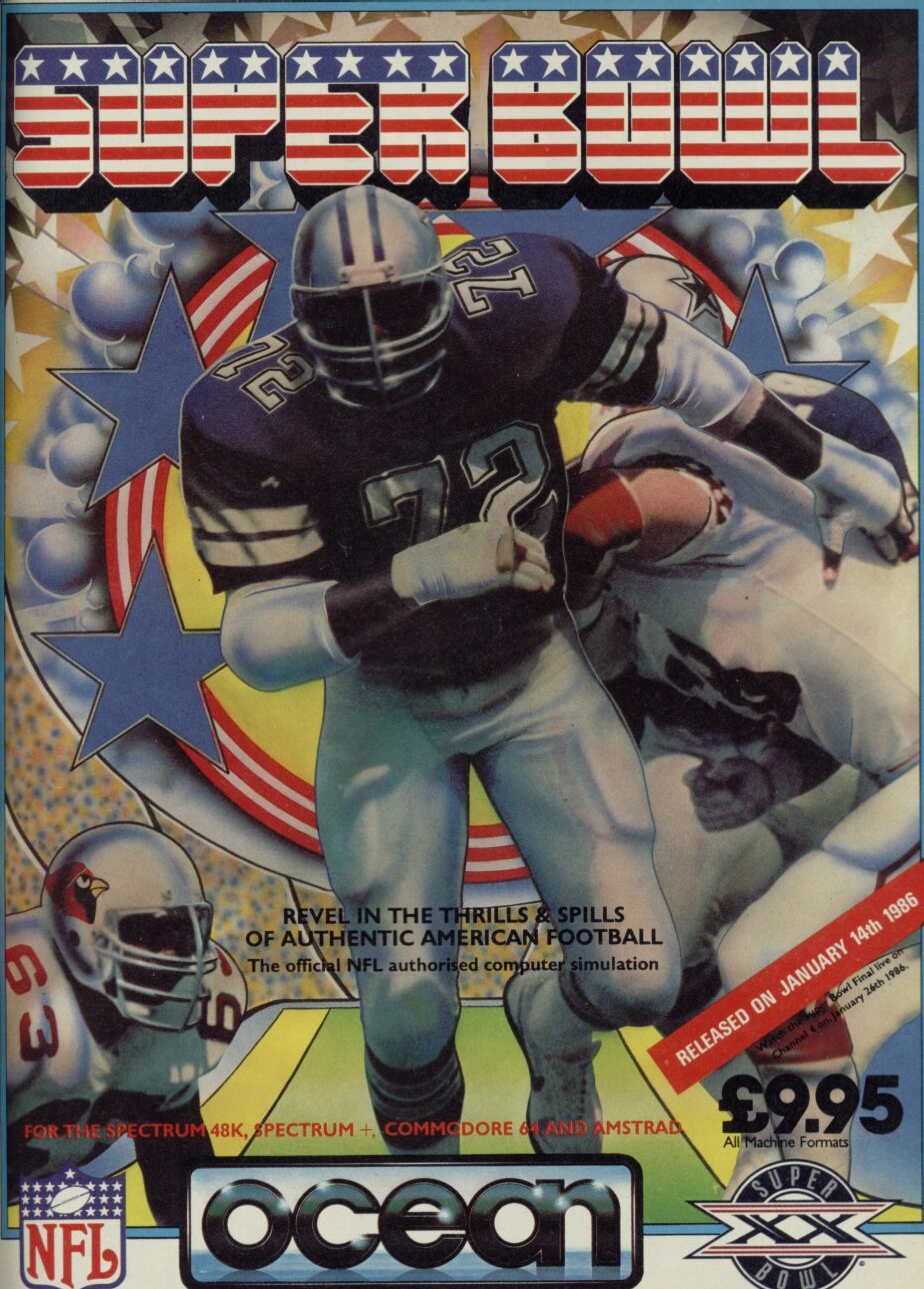
The movements of the monsters and guards which inhabit the castle are unpredictable. The guards seem fairly dumb in the way they prance around but monsters such as the giant globes, ET-headed robots and chameleons behave intelligently as they attack.

Firebird gives little information about the game on the cassette insert and you will find it difficult to get your bearings. It is, nevertheless, sufficiently different from **Knight Lore** and the others to make it interesting. Cheap, too!
John Gilbert

Publisher Firebird
Programmer Paul Hibbard
Price £2.99
Memory 48K
Joystick cursor, Kempston, Sinclair
★★★★




The COMPLETE
PART 1
SPECTRUM
All you want to know about the world's best-selling computer
A Database Publication
AT LAST! The partwork more than 2 million Spectrum owners have been waiting for!
PART 1 NOW ON SALE AT YOUR NEWSAGENTS
In six monthly parts
£1.50



SUPER BOWL
REVEL IN THE THRILLS & SPILLS
OF AUTHENTIC AMERICAN FOOTBALL
The official NFL authorised computer simulation
RELEASED ON JANUARY 14th 1986
Watch the Super Bowl Final live on
Channel 4 on January 26th 1986.
£9.95
All Machine Formats
FOR THE SPECTRUM 48K, SPECTRUM +, COMMODORE 64 AND AMSTRAD
NFL
ocean
SUPER XX BOWL
JANUARY 26, 1986
LOUISIANA SUPERDOME, NEW ORLEANS
TM + © 1941 NFLP Inc. All Rights reserved.
Ocean Software Limited authorised user

Beach Head II

DATE LINE: July 1947 — The Dictator is still alive. Despite your valiant efforts to destroy this evil genius in **Beach Head**, he has escaped and established a secret fortress somewhere in the jungle. He is known only as The Dragon — well, Dick Tator is a rather silly name — his defences are strong; he is holding allied troops as hostages. Only you can take on this mission to rescue them, Ramb . . . oops sorry — Chief Commander Stryker.

Like its predecessor, **Beach Head II** is a four part arcade game, filled with machine guns, mines, helicopter gunships — in 1947? — and general carnage. But this time the mission is on a smaller scale.

First things first, though. Choose whether you want to play the part of goodie-goodie Stryker or that crazed tyrant and all-round-fun guy, The Dragon. Find a friend and you can even play head to head and attempt to obliterate each other simultaneously. Then there are the three skill levels if you're playing against the computer.

Part One: Attack. The first thing Stryker has to do is drop his troops safe behind the cover of a wall. While the chopper is invulnerable the men aren't, so he drops them as low as possible, though if he flies too low their 'chutes don't open, which serves them right for jumping from a helicopter. Meanwhile The Dragon takes pot shots with a machine gun which has vertical range controls as well as horizontal direction. Though you won't run out of ammo, indiscriminate fire is unwise as it makes targetting slower.

From the cover of the first wall Stryker has to run his troops from one of three gaps across exposed ground. As the gaps flash like Christmas lights, pressing 'fire' chooses the opening which is currently illuminated, and left or right chooses the soldier's course. Once they reach the cover of the second wall they're in need of a rest, so an equal number of reinforcements join them.

Now there's just one gap, directly in the line of fire, though you can send a man over the top while some foolhardy — sorry, heroic — comrade runs into the path of the gun, drawing the fire and trying to lob a grenade while in position. There are points for each man clear, and a bonus for each emplacement destroyed.

The main problem with this action is one of control. In an attempt to get all the action in one screen the figures are tiny and the response times seem a little slow. But if keeping the Allies up and running is hard enough, The Dragon has a worse time. The line of tracer bullets can be difficult to see.

Part Two: Rescue. Don't worry about the previous criticism; in this next section the Allies have captured the turret so it's their problem. The prisoners march across the screen, left to right, apparently oblivious to the mayhem.

Meanwhile, The Dragon throws all he's got at them. When you learn that this includes rocks dropped off the roof you'll realise that this isn't much. He also has a tank without ammo, but luckily the prisoners are so numbed by their ordeal that they walk straight into its path. An armoured car can gun them down but sneakiest of all is a mobile trap door (!) from which a little figure can emerge to lay mines.

Stryker has to shoot all these obstacles and clear the path for the pole-axed POWs, some targets calling for careful aiming. This time the enemy has the advantage, even though the selection technique calls for some odd joystick shifting.

Part Three: Escape! Back to the helicopter and it's time to fly any survivors out to freedom. Stryker has four possible routes, of varying difficulty, though he can't tell which is which, so it pays not to put all his eggs in one basket. Once he launches a chopper it's a question of steering left and right across a scrolling screen, blasting buildings and avoiding the enemy tank fire.

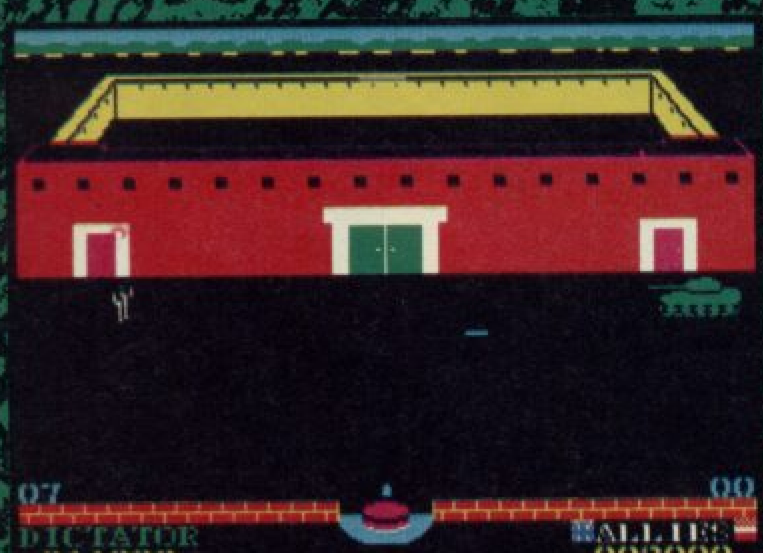
Part Four: Battle. Neither side has any advantage here unless it's the one player game — in which case it's fairly simple to beat the computer. Stryker has tracked his enemy to some underground caves, but they've obviously had enough of blasting each other with bazookas so they indulge in some ancient native trial of strength.

Sticks and stones will break their bones, as they hurl 'poonta' sticks at each other across a chasm. Baseball skills may help Stryker here, as straight and curved throws are possible, as well as ducking and jumping.

That's it then, and while **Beach Head II** is no classic it is different enough from the original. Perhaps the parts don't make up a satisfactory whole and the tiny graphics are hardly impressive, but if your were a fan of part one then this is worth a look. *Jerry Muir*



Publisher US Gold
Price £7.95
Memory 48K
Joystick Kempston, Sinclair, cursor
★★★






SABOTEUR!
DURELL
software getting harder
SPECTRUM
&
AMSTRAD
R.R.P. £8.95
DURELL sales dept.,
Castle Lodge, Castle Green, Taunton TA1 4AB



ADVANCE WITH SAGA

World Leaders for Spectrum 16K, 48K and + Compatable Keyboards



After adding our products to your Spectrum, your Spectrum will not merely become a superior computer but a more complete computer system.

The SAGA keyboards, culminating in the new SAGA 3 ELITE, provide your Spectrum with the sheer elegance that it deserves. The SAGA 3 ELITE incorporates the most recent technology in keyboard design which provides 27 single entry functions.

If you would like graphics with real Style, then they are yours with our latest graphics package, while letter quality print can be produced for less than £120 from our new printer.

Just cut out the Coupon below for any of the following products:

SAGA 1 EMPEROR 67 keys enable easy access to every function, making obsolete the "Stretch requirement" of other keyboards. **NOW £39.95**

SAGA 2 PROFILE A re-design of the popular Lo Profile with number pad, 52 keys. **£49.95**

SAGA 3 ELITE recently developed, houses both Spectrum and Spectrum +. The keyboard consists of a Function Block, Qwerty layout and number pad. Out of the total 87 printed keys, 27 are direct entry, auto shift.

£69.95 - Sinclair User Classic October 85.

DUSTCOVERS Black with SSL logo, available for all keyboards. **£4.95**

STYLE Realise your graphic expectations. Comprises Kempston compatible interface and Software. **£29.95**

SAGA GP Graphics Tablet—super improve STYLE, plug it in and see. **£79.95** (read the reviews!)

NEW LETTER QUALITY PRINTER The first in a new range of printers to be available shortly. SPEED: 12 CPS. PRINT: Ink on ordinary A4 paper. INTERFACE: Centronics & RS232. For print sample and further information, write or call now, only **£119.95**

SOUNDBOOST Puts music in your ears (and television) **£9.95**

FLEXICABLE Extend your capabilities with two more ports! **£11.95**

TURBO INTERFACE with custom chip, ROM slot and 2 joystick sockets the TURBO out-performs other joystick interfaces. **£21.95**

We invite your enquiries on (04862) 22977, more descriptive literature is freely available for each product (please send stamp).

SAGA SYSTEMS LIMITED
(04862) 22977

SSL

KEEPING YOUR COMPUTER UP TO DATE

	QUANTITY		P&P	
SAGA 1 EMPEROR		*£39.95	£1.50	
SAGA 2 PROFILE		*£49.95	£1.50	
SAGA 3 ELITE		***£69.95**	£1.85	
DUSTCOVER		*£4.95	FREE	
STYLE		*£29.95	FREE	
SAGA GP		*£79.95	£1.50	
LTR-1 PRINTER		*£119.95	£2.30	
SOUNDBOOST		*£9.95	FREE	
FLEXICABLE		*£11.95	FREE	
TURBO INTERFACE		*£21.95	£1	
VAT is included			**TOTAL**	

Overseas orders, please deduct 15% VAT add £3 for postage excess.

SEND YOUR ORDER TO: Dept SU1 Order Desk Saga Systems Limited. 2 Eve Road, Woking, Surrey GU21 4JT.

Mr/Mrs/Miss ____________

Address ____________

____________ Amount enclosed £ ______

My Access Card No. is ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

ACCESS ONLY ACCEPTED

Please tick method of payment: PO ☐ Cheque ☐ Draft ☐ Access ☐

If this is confirmation of telephone order, please tick box ☐

Signature ____________ Date ______

Please allow 28 days for delivery.

SU/2/86

Combining the features of the Saga 1 & Saga 3. Only £54.95 inc. VAT + £1.50 p&p.



Four great new add-ons from Ram, Number One in everything for the Spectrum…

TURBO INTERFACE – NEW LOW PRICE

Outperforms any other Spectrum interface. Supports Kempston, Protek, Interface 2 and ROM cartridge software, with a full expansion bus at the rear. The Turbo works with two standard joysticks, making the most of the Quickshot II's fast action. Features a unique power safety device and a new Reset button. Even more amazing value at just £18.50

QUICKSHOT II AUTO RAPID-FIRE JOYSTICK

The top games joystick with its sleek trigger fire button and an auto-fire switch for continuous shooting – a snip at only £9.95.

SPECTRUM INTERFACE

This Kempston-compatible interface adds real games power to your Spectrum. Costs just £9.95.

SPECTRUM UPGRADE KIT

Boost your 16K Spectrum to a full 48K, allowing you to run all the latest and greatest software. Only £21.95

Where can you get your hands on Ram's amazing Spectrum add-ons? You can see them at branches of Boots, Menzies, Greens, Spectrum Group computer centres, and good computer stores everywhere.

Ram Electronics (Fleet) Ltd (Dept SU), Unit 8, Redfields Industrial Park, Redfield Lane, Church Crookham, Aldershot, Hants GU13 0RE.
Credit Card hot line: *Tel: 0252 850085. (Access & Visa).*

Please send me ____ Spectrum Turbo Interface(s) at £18.50
____ Quickshot II Joystick(s) at £9.95.
____ Spectrum Interface(s) at £9.95.
____ Spectrum Upgrade Kit(s) at £21.95.
(Please state issue 2 ☐ or 3 ☐)

+£1 per order P+P (£3 Overseas) **TOTAL £**

☐ I enclose cheque/postal order ☐ charge my Access/Visa

Expiry Date___/___/___

Name____

Address____

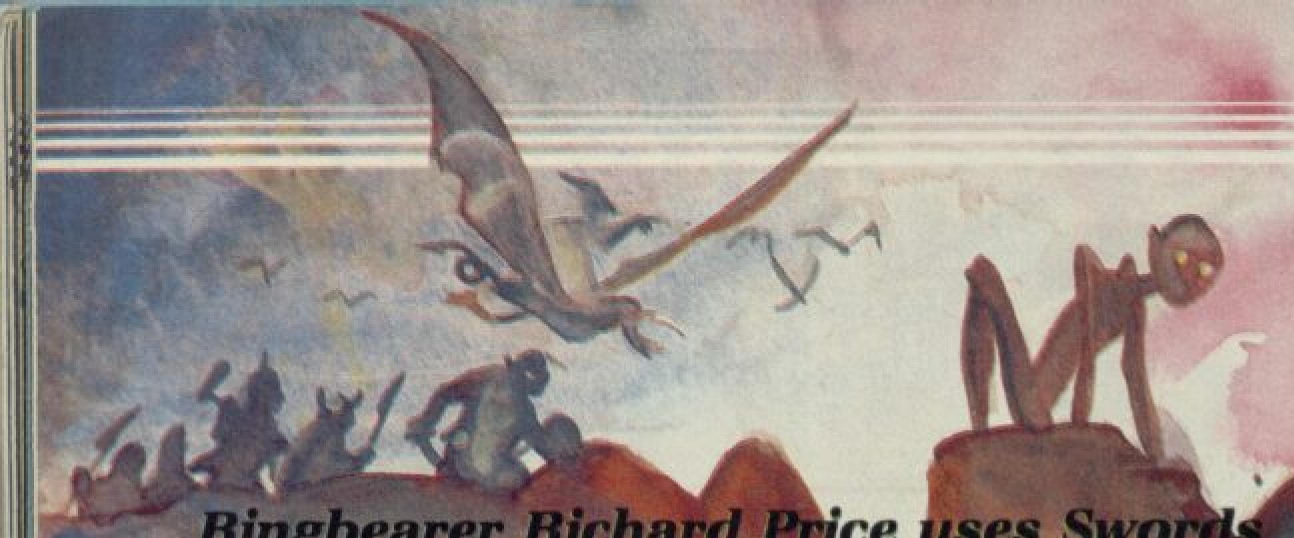
____ Postcode____

Telephone____

24 Hour despatch for credit cards and postal orders (7 days for cheques.)
All products are fully compatible with the Spectrum, Spectrum + and Sinclair Microdrives.

Ram Electronics (Fleet) Ltd
(Dept SU), Unit 8, Redfields
Industrial Park, Redfield Lane,
Church Crookham, Aldershot,
Hants GU13 0RE.

Trade and Export enquiries welcome.





Ringbearer Richard Price uses Swords and Sorcery to save Souls of Darkon

I FIRST READ *The Lord of the Rings* in the strange summer of 1968 — when the conflicts between the forces of oppression and freedom were in sharp focus from the invasion of Czechoslovakia and the seemingly endless inhumanity of the Viet Nam war.

The book had been around a while then, but it seemed to reflect some mood of the time and rapidly developed a following. I borrowed three tattered paperback volumes and shut myself in my damp student hovel for four days where as Tolkien himself said, in his writings about fantasy, I went 'out of myself', immersed, convinced and entranced.

The tale of the Ring wars is so involving not just because of its theme, but above all it is the vast scope and coherence of the world of Middle Earth which hooks you into the story.

There are many strange races, each with its varied tongues and cultures, obsessions and preoccupations — the clever, quarrelsome dwarves and their greed for wealth; the powerful elvish lords who dream of the past and the imminent end of their world; the hungry hobbits whose main aim is a well-filled belly, a comfortable chair and a pipe of fine Longbottom or Old Toby. And over all lies the shadow of Sauron, the millennia-old undead sorcerer whose spells and armies threaten to engulf and enslave all the free creatures of Middle Earth.

It is Sauron who dominates the story. Wherever you travel in Middle Earth, his never-closed eye or his servants may see you as they search for the One Great Ring. The magic in this ring is so great that it can, in a sorcerer's hands, be used to conquer the strength of the other rings of power in the world. "One Ring to rule them all . . . and in the Darkness bind them, in the Land of Mordor where the Shadows lie."

Sauron's Mordor is the embodiment of hate, evil, unthinking violence and foul sorcery. From this smoking, shattered desolation Sauron sends out his slaves to destroy all nature and all friendship. He will succeed when he recovers his lost Ring . . . and once again he becomes aware of its finding when a silly hobbit called Bilbo Baggins steals it from a wet cavern in the Misty Mountains.

If you played **The Hobbit** and had never read *The Lord of the Rings* you would never realise the importance of Bilbo's chance find. Nor did Bilbo. Now, after a long wait, Melbourne House have produced the giant sequel to Bilbo's quest. **Lord of the Rings — Game One** covers the first volume of the trilogy and deals with Frodo Baggins, Bilbo's adopted son, and his journey towards Mordor.

Bilbo is now very old and Gandalf the Wizard arrives at Bag End one day to set Frodo a mission. The mission is to take Bilbo's ring, the One Ring, into Mordor and hurl it into Mount Doom, the volcano where it was forged and the only power

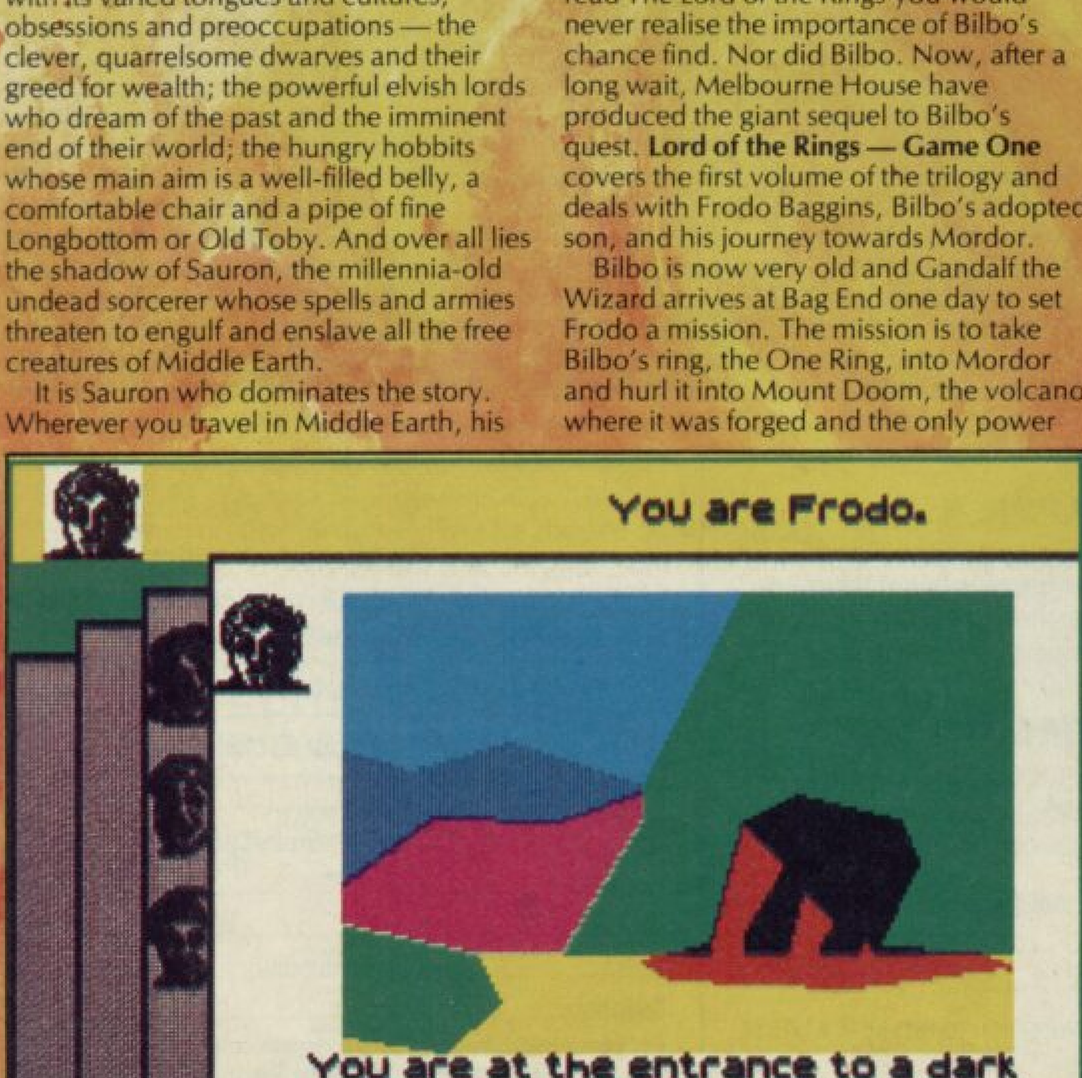
Lord of t

which can destroy it forever. If the Ring perished then so does Sauron.

So poor old Frodo not only has to do some extremely unhobbit-like adventuring but has to save the world into the bargain. His servant, Sam, and his relatives Pippin and Merry persuade him to let them come with him . . . the game begins.

The Melbourne House programmers in Oz have spent 18 months developing the programs and, after the success of **The Hobbit,** were given a free hand by the publishers and Tolkien's heirs. They have stuck very closely to the story but have added episodes so that you will need more than the books to be able to solve the various parts.

The package is huge and contains two cassettes, a paperback copy of the first book and a comprehensive instruction booklet. Each cassette holds one part of the game and there are also two beginners' adventures. Those are smaller, less complex versions of the main games, intended as an introduction for those people who aren't too familiar with the







the Rings

story or who want to play an easier scenario.

Generally they have more graphics and less text, objects and locations than the main game and there is no multi-role option. These programs can be played in their own right, without having to carry data over from the first to the second part. However, if you play the second part without loading in your final saved position from the first you will find that you don't have all the friends and objects who will make life a lot easier along the long road.

The first section of Game One takes Frodo and his pals from Bag End out of the Shire to the wild lands beyond Bree, almost to the ford at Rivendell. The second section is the journey from Rivendell, through the mines of Moria and the tree-kingdom of Lothlorien, ending where the company go their separate ways — Sam and Frodo to Mordor and the others off to the war in the south. Melbourne House tells me that it intends to bring out the game of the second book 'hopefully by Christmas '86.'

You play through the eyes of Frodo and his friends and can choose at the beginning whether you want to be Frodo, one of the other three or any combination of the four. That means more than one player can take part and all the characters can have independent lives. If you're on your own any characters you don't have the time or energy to order around will be run by your computer.

When you load in the game you will probably notice that a whole block doesn't load after the initial screen illustration. Don't stop your tape and start cursing Melbourne's copying machines or wailing in frustration — as I did. Let the tape run until the main program loads in — the missing chunk is a restart postition which is only needed when you want to start from the beginning again after being cast into oblivion by Sauron. If you are wise enough to be a regular saver you'll probably never need to use this portion.

The game format is text adventure with some location graphics for the principal places. The screen shows four overlapping 'pages' — whichever character is currently playing is shown on top with his protrait. Above that is a strip showing the pictures of the characters you've chosen to use and who you are.

The main text scrolls up the screen and the input buffer is the small area at the bottom. You can type in up to 128 letters at a time and instructions can be separated by punctuation. That lets you do a lot in one go. Melbourne has used Inglish again, as in **The Hobbit,** and with some limitations you can enter fairly normal sentences — I certainly felt that this works well and seems to be better and more responsive than earlier Melbourne games.

There's a wealth of detail in the descriptions and messages and the screen is often completely filled with words. The response time for the interpeter is not hyper-fast but, given the size of the game and the number of commands you can input in one go, that is not surprising and not a real problem. The only real irritant for me was the way other characters appear one by one — when you're in a large party this process can take a bit of time. Of course, just like **The Hobbit,** all the creatures live their own lives and you're not likely ever to play the same game twice.

Speaking to the other inhabitants is very important — quite often it will be the only way you have of getting things done. All you have to do is enter 'Say to . . .' followed by the command in speech marks. The speech system is more limited than the direct command input and the interpreter will only really understand one or two sets of actions at a time.

Play begins in Frodo's burrow at Bag End. Sam and Pippin are with you and




COSMIC
WARTOAD
SPECTRUM 48k
7·95
CW
Free our heroine from certain death..beat the clock on the GALACTIC GUILLOTINE!
On-Screen Combat Windows speed you through the UNIVERSAL TIME-GRID.
Battle against the RYGELLIAN SLIME-BEASTS at the edge of time!
Designed by DENTON...
for Extra-Terrestrial Entertainment!
ocean
Ocean House · 6 Central Street · Manchester · M2 5NS
Telephone 061 832 6633 · Telex 669977
Ocean Software is available from selected branches of:
WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Greens, Boots, Spectrum Shops and all good software dealers.

you will need to prepare for the journey by collecting a host of useful objects and stashing them into the backpacks provided. That can be a fairly hilarious business at times as the program will sometimes confuse the packs. You may find Sam putting things into your pack rather than his and I spent some time sorting out this pleasant confusion.

When you're ready and have read Gandalf's note it's time to hit the road and head east to meet Merry, who is due to meet you at the Brandywine ford. It's sensible to play Merry as a separate character. I found that if I left his part to the computer he would tend to wander away from the ferry and not be there when we arrived. Going back to look for him is very dangerous — you'll soon realise that the Nazgul, Sauron's terrible Ringwraiths, are already abroad, sniffing you out. Death comes quickly in their presence. These Black Riders will dog your footsteps throughout the game and any unnecessary delays will bring them closer to you.

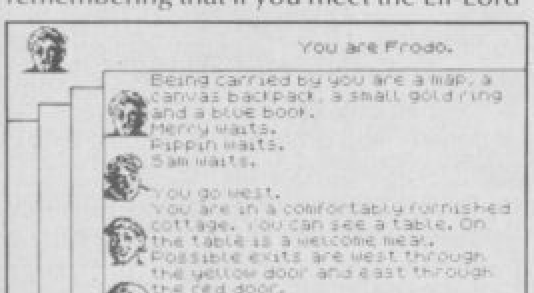
Before you go east you should explore the Shire a little. Over at Michel Delving there's the Mathom House, a sort of museum. I'm absolutely sure that there are some handy items inside those dusty glass cases but I still haven't been able to get into them.

There's also a book which tells you about the value of elfstones . . . could an elfstone be the way to open the cases? The main thing to find here, though, is a light source. Without it you're likely to become trapped in the tunnel leading to the forest and the outside world.

From Michel Delving you can, if you wish, go north. There is a maze of 'winding grassy paths' up there in the Tower Hills and, no doubt, something concealed in it. If you don't become hopelessly lost you'll find your way back to the road. It won't take you long to realise that the river bridge isn't passable and a search through the woods and swamps will bring you to Maggot's Farm. If the dogs bother you just wait a few times for help to arrive.

By the time you reach the tunnel you'll begin to realise that the game is pretty big and not at all simple, especially if the four rather quixotic hobbits are controlled independently. Beware of bringing Merry across the river — he isn't meant to be west of it and odd things may happen if you do, like finding that he can be in more than one place at once!

I won't go into detail about the second part of the game but it is worth remembering that if you meet the Elf-Lord



Glorfindel in the wild lands you should do what he says and stick to him like glue. Only his power will get you safely into Rivendell and away from sudden death and destruction at the hands of the Ringwraiths.

The game behaves strangely on occasions. Merry's split personality is an example but there are others — I typed in "Dig garden" and got the answer "I don't see any dim garden to I am my name is." Of course, this may mean the interpreter has the odd psychotic episode but I'm sure that it is at least attempting to respond. This is better than endless "I can't do that" — type messages and is often funny. I once asked Sam to give the food to me — eating is essential for frisky hobbits — and got back "Sam tries to give the food to you but you is too heavy". Don't worry — dieting isn't essential before you begin playing.

Lord of the Rings is essential equipment for any adventurer. The storyline is solidly based on the book and has been faithfully reproduced. Melbourne has added some ingredients but these don't conflict too much with the main tale. There is also a good sized vocabulary to support the interpreter and large numbers of locations to explore, giving a fine feel of space. The graphics are relatively unimportant and, thankfully, the programmers have clearly attempted to cram in as much text detail as possible, rather than too many pretty but useless pictures.

The multi-role/mulit-player option is pretty neat. Very few games have used it before but it helps to extend the breadth of an adventure.

Some people will want to play as a group and there is endless scope for argument and debates as well as individual heroics. Oh, and if you get fed up of everyone following you around, just wear the Ring. Invisibility has its uses — unless the Nazgul are near. Feel their breath on your neck?

Publisher Melbourne House
Price £14.95 **Memory** 48K
★★★★★

Swords and Sorcery

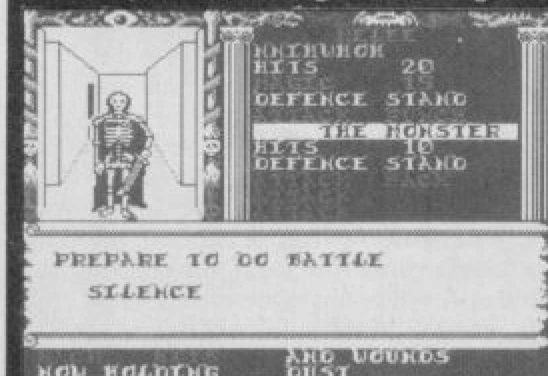


RIGHT, are there any doers-in of demons, monster-bashers, snappy swordspersons or subterranean sorcerers out there? If you prefer Rambo-style dungeon exploration to the vaguer joys and subtleties of text adventure then **Swords and Sorcery** may well appeal to you.

The aim is to develop an increasingly powerful character who, by combat and theft, is able to travel deeper into the dungeon to take on ever-stronger creatures and better treasures. Spells can be cast and magical items abound in the catacombs of Zob, whose armour you seek.

This is almost entirely a graphic game and definitely not a text adventure — text is displayed to show the results of actions which are chosen from a set of menus and sub-menus. Using three keys for left, right and enter you whizz through different categories of action, line up the chosen word at the left hand side of the buffer and punch in the action.

So, if you wanted to get something from



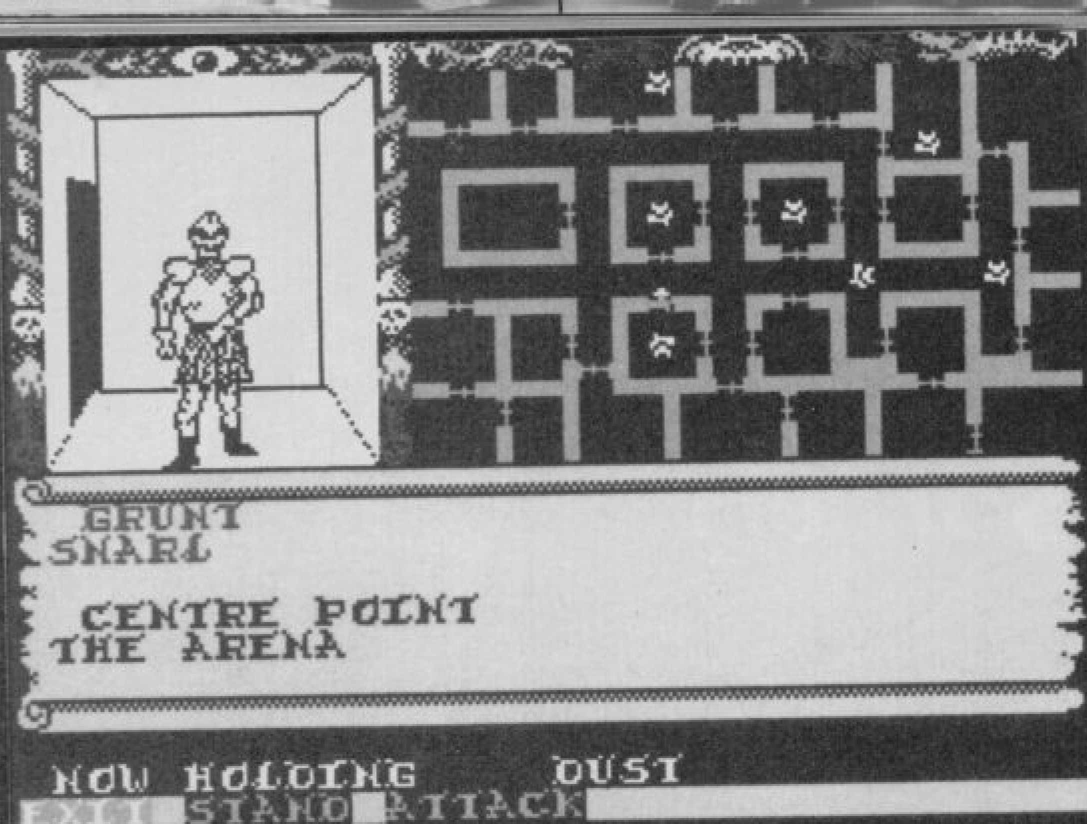
a locked chest you would first choose the Act menu, then select 'Smash' — if you haven't got a key. From there you would 'Open' it on the same menu and then shift to the Handle menu to 'Take Out' and finally 'Pick Up'.

Above this menu-wandering is the text display and two graphics windows. On the left is an animated picture of the corridor, or room, you're in. Here you will see monsters approaching in the tunnels or spot the occasional item on the floor or walls.

The righthand window is the map of the Quandrant of the level you're in, with all rooms and doors shown. There are also moving white blobs to represent you and the monsters you've seen. Once you've been into a room and scurried out hastily any monsters there will show up on the map to remind you of how difficult life can be when you're 60 feet under.

As this game claims to be Level One and says there are four quadrants to a level, I presume, using my rudimentary arithmetic, that there are four screens in this game. I suspect this means that you will have to undergo a lot of reincarnation and falls down deep pits — not shown on the map — before you can progress fast.

You need not necessarily lash out at



every monster you meet. There is a Talk menu which allows you to trade breathtaking insults such as 'Beware O dragon bottom biter or I will curse you' and 'Death to the zit headed smelly piece of rag'. Such profanity may well overawe some less heroic creatures and persuade them to evaluate an item you've found or give you some useful information. On the other hand they may take umbrage and chop your legs off . . . such is life.

When you start a game you can choose either to play with the default character Flubbit the Dull or choose to create a new character who can be 'trained' and armed to enhance specific skills, whether physical or magical. This sequence uses menu routines too and you can make many different named characters if you like to vary your role. Each one can be saved to tape for future catacomb crawling. Make sure you spend some time with Yama, a master who can provide the secret of living more than once — absolutely essential hereabouts.

Once you've trained — a fairly swift process involving a couple of minutes menu handling — you can buy some weapons and you're ready for the off. You can then move your white blob around the maze, again using only three keys for left, right and forward.

The first thing to remember is to make sure you're actually holding your weapon and wearing your shield if you've got one. There are monsters in almost every room and there are about 20 types made up of interchangeable graphic components.

The combat routine allows a series of attacks and defences — you will have chosen your preferred moves from the Hit menu. Hit points, stamina and magical strength are shown on a status screen. You may choose to enter into negotiations before you fight but although this is quite amusing there are not that many creatures who appreciate the finer arts of debate. Many monsters are walkovers but you are bound to lose stamina as you travel and finding food is a necessity.

The instruction booklet is comprehensive and gives detailed help for most situations. When you get to the back you'll find that this game is meant to be the first part of a series of modules. By the time you read this you should be able to get hold of Level 2, costing £1.00, and subsequent levels at £4.95 each. There is also supposed to be a village scenario where you can trade or buy new items.

If this game was in text format it would probably be deadly dull but the mixture of presentations is lively if nothing else. The graphics are not staggering but they serve their purpose and the game has constant action which will probably appeal strongly to aficionados of *D&D*.

I began playing **Swords and Sorcery** after a long stint with a text adventure and at first didn't have much motivation. However, after I'd mastered the menu handling and created my own character — Flubbit the Dull is not particularly resourceful — I got into the swing of it. It became remarkably compelling in time and I found myself, near dawn, still struggling to build up power to get past a particularly tough and vicious creature in the second quadrant. Intellectual it's not but there is plenty to do.

Publisher PSS
Price £9.95 **Memory** 48K
★★★★

Souls of Darkon

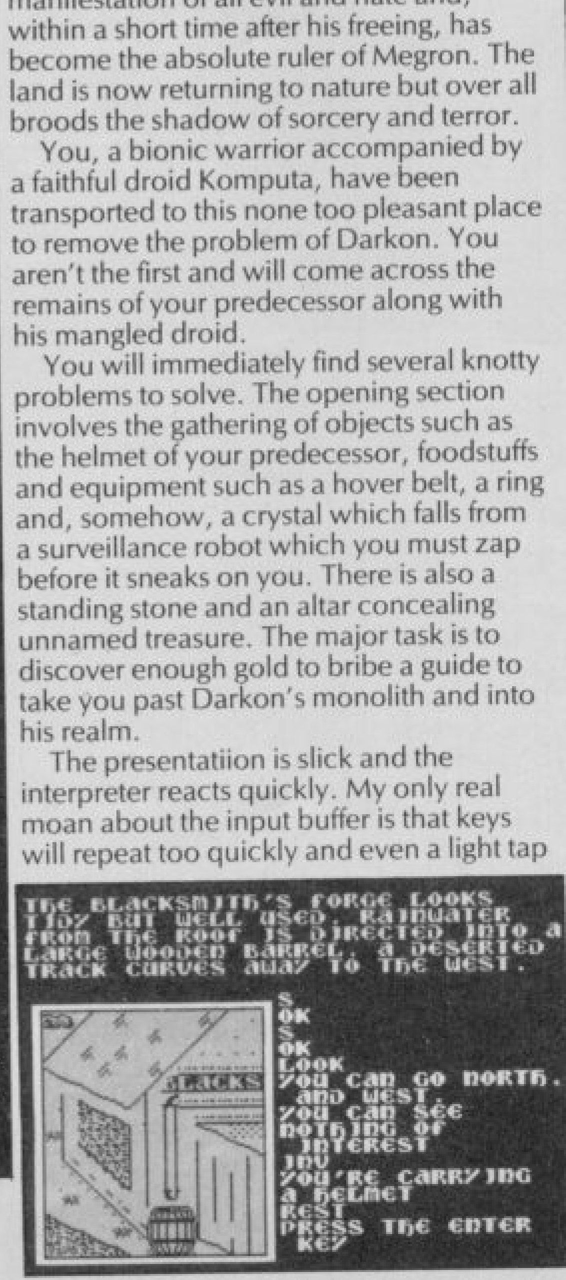
HEADING back into the realms of text adventure we now come to the planet Megron — not a headache cure. Here you find the decaying remains of a high-tech culture apparently destroyed at its apogee.

These Megronians were just too clever and managed to loose Darkon onto their unsuspecting world. He, or it, is the manifestation of all evil and hate and, within a short time after his freeing, has become the absolute ruler of Megron. The land is now returning to nature but over all broods the shadow of sorcery and terror.

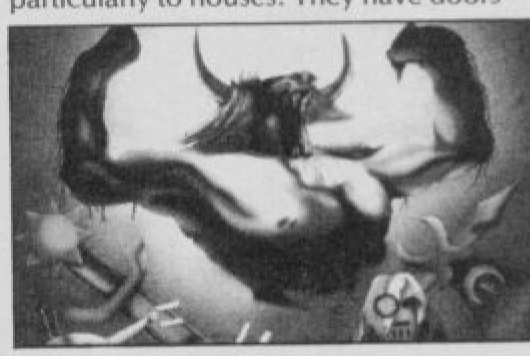
You, a bionic warrior accompanied by a faithful droid Komputa, have been transported to this none too pleasant place to remove the problem of Darkon. You aren't the first and will come across the remains of your predecessor along with his mangled droid.

You will immediately find several knotty problems to solve. The opening section involves the gathering of objects such as the helmet of your predecessor, foodstuffs and equipment such as a hover belt, a ring and, somehow, a crystal which falls from a surveillance robot which you must zap before it sneaks on you. There is also a standing stone and an altar concealing unnamed treasure. The major task is to discover enough gold to bribe a guide to take you past Darkon's monolith and into his realm.

The presentatiion is slick and the interpreter reacts quickly. My only real moan about the input buffer is that keys will repeat too quickly and even a light tap will result in a long string of the same letter which then has to be erased.



The descriptions are concise and deliberately intended to make you 'look' a lot and examine articles. Don't assume that things aren't there because the description doesn't mention them — there is a lot of hidden detail. That applies particularly to houses. They have doors



but you won't see that stated in the location text.

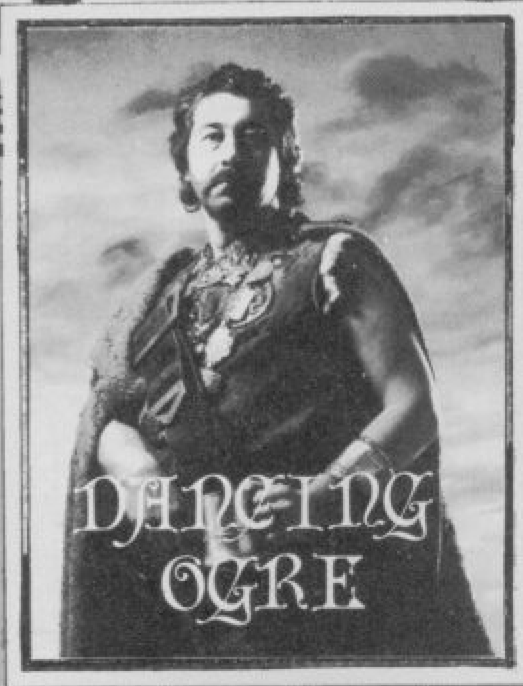
The problems are not all simple and you will need some ingenuity to progress very far. I did feel that this was tied up with a relatively limited vocabulary, the main verbs of which are displayed if you type 'vocab'.

The graphics are very fast and are displayed on the left of the screen. They will react to some of your actions — the surveillance robot, for instance, is shown both before and after zapping.

The presentation is attractive, despite the key repeat problem, and there is sufficient interest in the early section to get you involved and keen to solve the riddle of the altar and the monolith. There is also action and the problems of dealing with other creatures who are not ultra-communicative unless you find their particular need or interest. Not bad.

Publisher Taskset
Price £7.95 **Memory** 48K
★★★


PERIPHERAL POWER
CASSETTE/DATA RECORDER 500
For your home computer, will allow easy loading of even the most stubborn program. Features include save indicator, mains/battery, accepts standard computer leads and 5 pin DIN connector. Also provides exceptional audio quality for fine listening.
(Batteries not included) £24.95
SWEET TALKER
CHEETAH "SWEET TALKER"
Based on an allophone system, program any word or phrase, providing unlimited speech. Now make your Spectrum talk. Compatible with Interface I & II and Spectrum + ... £24.95
MEGA-SOUND
MEGASOUND
For 48K Spectrum and ZX Spectrum +. Achieve amazing sound capabilities that your Spectrum has been lacking. Just plugs into the user port at the rear of your computer and amplifies sound through your T.V. £10.95
SPECTRUM JOYSTICK INTERFACE
Simply plugs into the user port at the rear of the computer and accepts any Atari style joystick including Cheetah 125, Quickshot and Kempston. Comes without rear edge connector at £9.75
or with connector which allows other peripherals to be stacked up at £12.75
56 WAY EXTENSION CONNECTOR
Cheetah's 6" long extension cable enables Spectrum peripherals to be distanced from your computer .. £7.95
125 JOYSTICK
Compatible with ZX Spectrum. Four extremely sensitive fire buttons. A built in auto-fire switch provides continuous shooting at the touch of a fire button £8.95
AERIAL SPLITTER
Cheetah's neat splitter unit complete with self adhesive pad allows you to keep your T.V. and computer aerial leads plugged in without disturbing the picture £2.25
SpecDrum
INSTRUCTION MANUAL
R.A.T.
The Cheetah Remote Action Transmitter is the most sophisticated computer controller available! Infra red transmission - so there are no leads trailing across the living room. Touch control, extremely fast, can be used with Cheetah RAT/ Kempston compatible software. Complete with receiver/ interface. £19.95
HI-STAK FEET
These instantly applied stick on feet for your ZX 81, Spectrum, New Brain, VIC, TRS etc. tilt the computer and make your keys easier to see and more enjoyable to use, allowing smoother programming. £2.99
SPECDRUM
8 digitally recorded real drum sounds. Extra sounds can be loaded from tape, creative, educational and fun. The most exciting peripheral ever developed! £29.95
Latin Kit & KitEditor £3.99
All Cheetah peripherals are manufactured to the highest possible quality standards and carry a full 12 month warranty
Prices include VAT, postage & packing.
Delivery normally 14 days.
Export orders at no extra cost.
Dealer enquiries welcome.
Cheetah, products available from branches of
John Menzies Boots WHSMITH
WOOLWORTH Spectrum dealers
and all good computer stores.
Cheetah Marketing
CHEETAH MARKETING LTD.
1 WILLOWBROOK SCIENCE PARK,
CRICKHOWELL ROAD, ST. MELLONS, CARDIFF
TEL : CARDIFF (0222) 777337 TELEX: 497455



Gordo gorges on newts and passes tips around the table in celebration

AFTER THE TERRIBLE loss of my strongbox I went into a decline. Hurrik, my old friend and landlord of the Crazed Camelherder, *upbraided me for consuming a mere half ox at dinner.*

To cheer me up he suggested I take part in a contest with Garlak, one of the smiths from the fortress and undisputed feasting champion of Urtuun.

Two nights later we assembled in the parade ground at the fort. Hundreds of soldiers and townsmen were waiting, and much cash was changing hands. I had arranged with Hurrik for a vast bet to be placed for me. The chosen food was pickled newt, a local delicacy. No drink might be consumed.

The first hour went well enough. Thirty each and no sign of flagging. Wild cheers arose as we reached 40, though Garlak was now sweating profusely and I was suffering mild discomfort in the abdomen. I mumbled a brief prayer to Kram, god of feasts and hangovers.

Without warning Garlak doubled up, howling. Like an oak he fell. "Ah, Gordo," quoth he, "I should never have had that haunch of venison before the contest — it has given me indigestion." What a man, what a hero.

We adjourned to the Camelherder *and I offered free drinks to all. Some poor devil, Hallam of Ilkeston, had clearly become psychotic and was being strapped to a table by five men. In between seizures he yelled to me that his mental state was deranged because he had never been able to find the shelter in* **Ground Zero.** *After telling him that he could make one from a door and some old cushions, he quietened.*

Jaye the Walker of Brocas Close, London seemed oddly dressed in a straw hat and bathing drawers. His misery and odd garb came, he said, from his failure to get his camera and suitcase on the way to **Terrormolinos.** *Passing him a stoup of sangria I suggested he look carefully around his kitchen and garden. If he can find a ladder and secure it well he will be able to climb up and get the camera from its shelf and even mount these steps to enter his loft and find the suitcase.*

A **Return to Eden** *has proved difficult for Startrooper Johnson of Leighton Buzzard. On landing from his vessel he finds that he cannot stay alive for long, being constantly fried like a sausage in a nuclear blast. To avoid it, I suggested that he hurries to leave his ship but makes sure he takes some useful and protective items with him. Once he has these on his person the best course is to find a suitable hole and get as far down it as he can.*

Alex Axethrower, a grim and heavily armed traveller from 91 Repton Road, Brislington, Bristol BS4 3LX, came over to tell me that he would offer help with **The Golden Apple, Erik the Viking** *and* **Adventureland.** *Should you need it, remember to pay the return post. His own quest was for the* **Arrow of Death** *and he had a number of questions for me. "First, Gordo, I have a hook I cannot use. Secundo, I have discovered a miserable slave. What help can he be? Ultimo, there is a building where giants roam and I cannot enter.".*

My brains were feeling a little strained by now but I did my best. The hook, as I believe, will help to lug armour up a cliff. The slave — he should be freed as they all should. His chains can be broken with a sword and he may show some gratitude. The building full of unpleasant giants can only be entered when these creatures are asleep. Bide your time and wait.

Two sailors, Ensign Creed and Gunner Mercer, told me how they'd tried to escape from death in **Subsunk.** *Inside the sunken submarine they had never been able to stop the flow of water from a blocked basin. That always ended in the flooding of the deck connecting well and certain doom to all concerned. Neither could they unrust the hinges in the machinery room.*

Freeman David of 21 Broadland Road, Great Sutton, South Wirral volunteered this advice. "Listen, friends. To clear the connecting well you should get a broom from the cupboard. If you attach this to the sucker which is in the toolbox you can then 'Plunge' the overflowing basin. The hatch hinges can be freed by taking the battery and spilling its acid onto the hatch. What I want to know is how to move the dust or get out of the locker." Write to him and share your knowledge, all you tars. He is also losing sleep over **The Helm** *and would appreciate any news of it.*

Some secret agent, whose name is unknown, told me that he has entered a well-protected castle in his search for **Valkryrie 17**. *There he has discovered a fine diamond protected by laser beams which kill. Close by is a billiard cue which can be got by inserting a five Frabnik piece. He also has a mirror. How, he asked, could he get the cue to dislodge the diamond when he had never found a 5F coin?*

The simple answer is never, as both the coin and cue are red herrings! There is no coin so the cue cannot be got. The real route to riches is by using the mirror to deflect the beams. Then it will be safe to shake the pedestal and dislodge the gem.

A portly and important gent, Sir Malcolm Beal of 10 Kestrel Drive, Rossington, Doncaster DN11 0ES, whispered to me that, although he has attained 88 per cent on his trip to **Hampstead** *and has seen Chubby and got his blessing, he has no idea what to do next to be a complete success.*

Attainment must become a matter of style and not purely possessions. This is the final secret of the ritual and I will not reveal it in detail. But remember that when you are utterly rich and powerful you can be as eccentric as you wish, wear what you wish, travel how you wish. No one will call you a fool then. A careful reading of page 12 of the ritual manual could prove instructive.

Sir Malcolm also needs help to find a screwdriver blade in **Escape from Pulsar 7** *and will offer in return advice on* **Colossal Adventure, Snowball, Lords of Time** *and the* **Emerald Isle.**

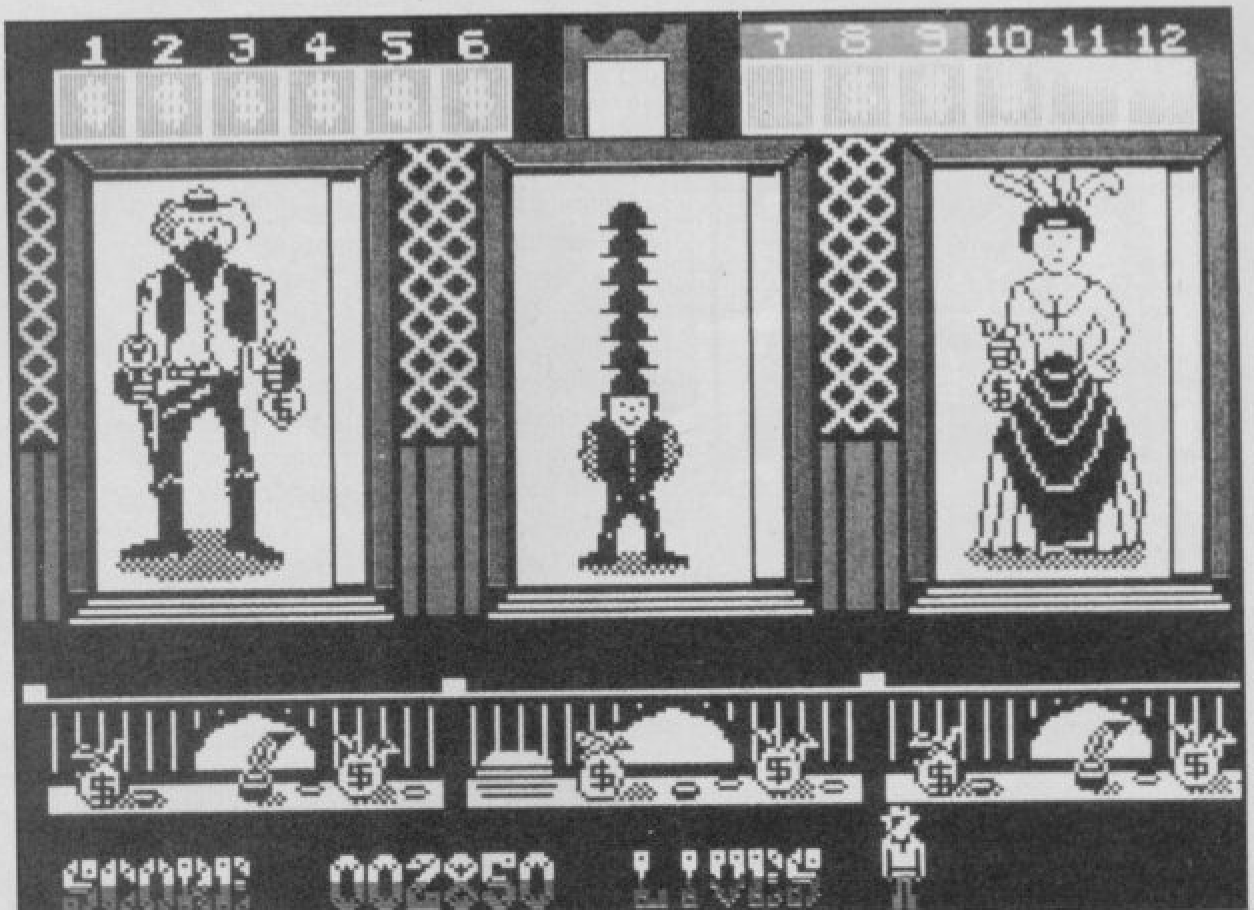
So, groaning, to bed and wild reptilian nightmares. Farewell, friends, and may Kram have mercy upon me.

Greatbelly

Gordo Greatbelly,
Landlord in agonising dyspepsia

If your have a tale to tell, or are in need of a helping hand, write to the Landlord of the Dancing Ogre c/o Sinclair User, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

West Bank



THE SMELL of gun powder hangs in the air of Soft City, a community born of the gold rush which has swept northern America.

As one of the few do-gooders in town you must protect the offices of the West Bank, there are 12 but you can cover only three at a time. The game is played in phases. You can only pass from one section to the next when at least one of the western characters has delivered gold to each door.

There are nine obnoxious characters in the game — four are introduced in the first phase. Each opens a door and either deposits money, a bullet or a bomb before the door is closed again.

The goodies in phase one are Green Jordan (Jordan? West Bank? Some kind of political message here? Ed), an untiring farmer who puts his life savings into the bank, and Daisy, the beautiful daughter of the city jeweller who mustn't be hurt.

The baddy in the same section is Jack Vicious. You have one chance to shoot him. Use your official bank gun using the one, two and three keys. Shoot to the left, right and straight ahead. If you're quick enough you will see Jack fall — hesitate for a moment and BANG! You are dead. He may also cosh Green Jordan on your doorstep, take the bag of money and try to shoot you, but he will never attack Daisy — such an old fashioned sense of morality.

The joker of the pack, a dwarf named Bowie, is neither good nor bad. He likes to wear a stack



of hats which you can shoot off his head to gain points. The last hat contains either a bag of gold or a bomb, so be careful.

Once you have filled all the boxes above the doors with dollar signs, a quick shoot-out between you and three gunslingers starts with a countdown. When zero is reached they will reach for their guns. Shoot them when they make a move, not before or you will be killed.

Next is phase two which is faster on the reflexes and introduces another difficulty — the rest of the characters are masters of the quick draw. Alfred and Joe Dalton are real handy with their guns, as is Mackeyham, a bloodthirsty villain who doesn't even bother to think afterwards. Julius is a bit of an odd-ball, and a dandy. He could give you a bag of gold, or a permanent cure for a headache.

Apparently there is a ninth character but I have not survived long enough for a close encounter. Whoever he, or she is, if your aren't quick enough on the draw you will be the victim of a whodunnit.

The wide variety of characters makes the game enjoyable rather than just a three key shooting match. I found it best to play with a joystick in one hand — which scrolls new doors onto the screen — and three fingers on the firing keys for each room.

The Spanish software house Dinamic is responsible for **West Bank**. Those of you who are familiar with Gremlin Graphics will know that Dinamic has also produced **Rocco**, the boxing game, and **Abu Simbel Profanation**. More power to their Spanish elbows.

John Gilbert

Publisher Gremlin Graphics
Price £7.95
Memory 48K
Joystick Kempston, Sinclair
★★★

Your Health

DESPITE what HiSoft claims, this package is not the first medical expert system available on a home computer. In fact, there is nothing unusual about it at all.

The program works out the best diet for you given parameters such as age, weight, height and sex. It also tells you whether you are the correct weight for your age, gives information about what food you should be buying and diagnoses any medical problems you may have.

That is an awful lot for a program to do. The advice it gives from its expert system diagnosis is very general, amounting usually to a strong recommendation to go out and get some more vitamin C. According to the authors of the package, vitamin C deficiency seems to be the cause-all and cure-all of most modern diseases.

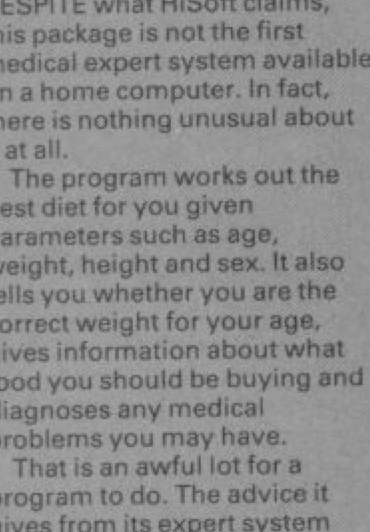
Your Health is one of those programs which will have you reaching for your doctor's phone number. If you are of a nervous disposition you could end up with a cabinet full of pep pills, and phobias concerning dogs, cats or any other animals or plants you care to mention.

The package is the first in a series of so-called practical applications aimed at widening the horizons of the average computer user. **Your Health** will probably be the most down to earth piece of software in that series. The others are called **Your Horoscope** and **Your Hand Reveals**.

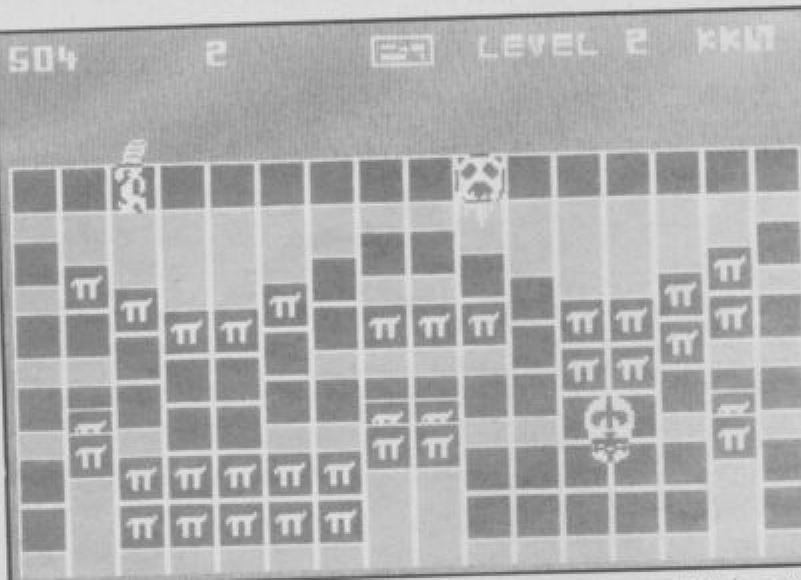
If you are serious about health foods and their nutritional values, then go for **Your Health**. If you are only interested in keeping a fairly healthy diet stick to fat-free yoghurt, diet Coke, monkey nuts, and plenty of exercise. It's healthier than sitting in front of the television for hours on end and beats the worry of knowing you've just partaken of 120 calories.

John Gilbert

Publisher HiSoft
Price £7.95 **Memory** 48K
★★



10 Pack Volume Three



Crazy Castles

HERE'S THE third collection of tacky games from the dank cellars of Automata. None of them could be a hit packaged individually, but ten games at £8 mail order — or a tenner in the shops, if you can find it in the shops — is a bargain by any standards.

There are eight arcade games on the tape, and two Quilled adventures — neither appear to be attributed to **The Quill**, but programmers tend to be devious about where they put the acknowledgement. Slapped wrists if it was omitted.

Pi-Meval Man is a jump 'n' dodge game of little interest — standard stuff. **Swettibitz in Space** is one of those games where you guide the spacecraft through a tunnel zapping aliens. It's lifted a bit by the confusing colour graphics, which will keep you on your toes.

Space Warrior, an invaders-type game, I found impossible to play. The invaders seem to swarm around your spaceship when you start, giving you no chance to make a kill.

Those are the worst games. Best of the bunch is **Crazy Castles**, where you travel over all the Pi-signs in each of 30 castles. It is extremely fast, attractive to look at, and contains a few tricks in later screens such as masked routes, where your character disappears behind the castle graphics to emerge elsewhere. You've also got to avoid the ghosts.

Necks Please is a rather sparse game of dodging Guardians in an empty space while collecting spells to use against Batula's creatures. **Creepy Dungeons** and **Drunk Policeman** are **Jet Set Willy** type arcade-adventures, and if you like such games you'll find those adequate entertainment.

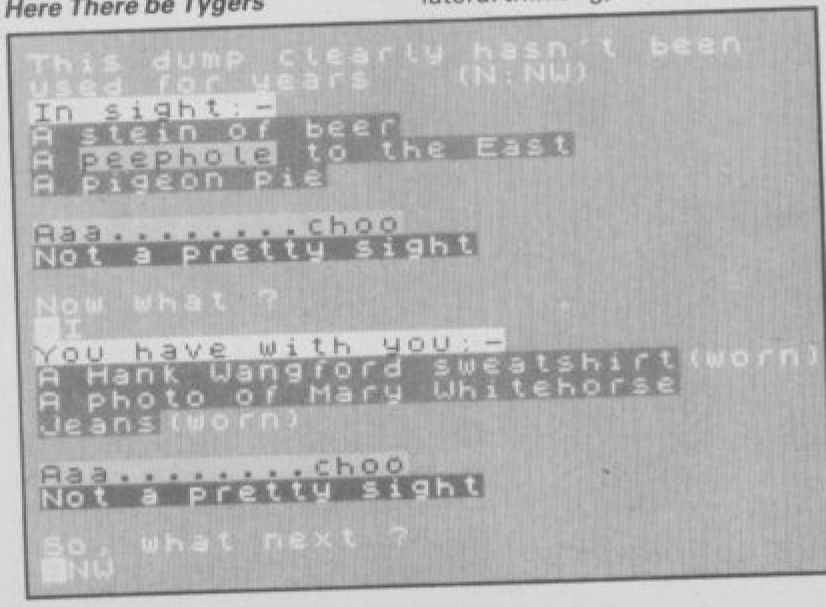
Mad Hatter involves setting the table for the famous tea-party. Collect up the sweets and choccy rolls, but don't let the mice or the poison pills touch you. Just to make things difficult, a pair of manic vacuum cleaners suck you towards them if you're not careful.

The adventure games are a wise inclusion, as the arcade numbers are unlikely to hold your attention for long, with the exception of **Crazy Castles**. Terry Braverman's **Royal Adventures of a Common Frog** asks you to rescue a princess from a dungeon. You start, a lonely frog, on a lily-pad. It's a long quest, a little lacking in humour or descriptive power, but the puzzles are certainly difficult enough. I did get a bit bored, however, with the sub-standard "I can't" reply to incorrect commands.

What that lacks in fun is more than made up for by **Here There Be Tygers**, a mad surrealist romp which starts when you stick your big toe up the bath tap and find a vampire leeching onto the end of it. A hilarious introduction sets the style, which involves quantities of strange food stuffs, lots of lateral thinking, and a mysterious quest which is not all it seems. Saving the universe is only the beginning . . . try wearing the silk undies over your jeans.

All in all, a mixed package — good value for money, certainly, but not outstanding. Worth buying as a stocking-filler, especially for **Crazy Castles** and **Here There be Tygers**. *Chris Bourne*

Here There be Tygers



Publisher Automata
Price £8.00 (mail order)
Memory 48K
Joystick Kempston
★★★★

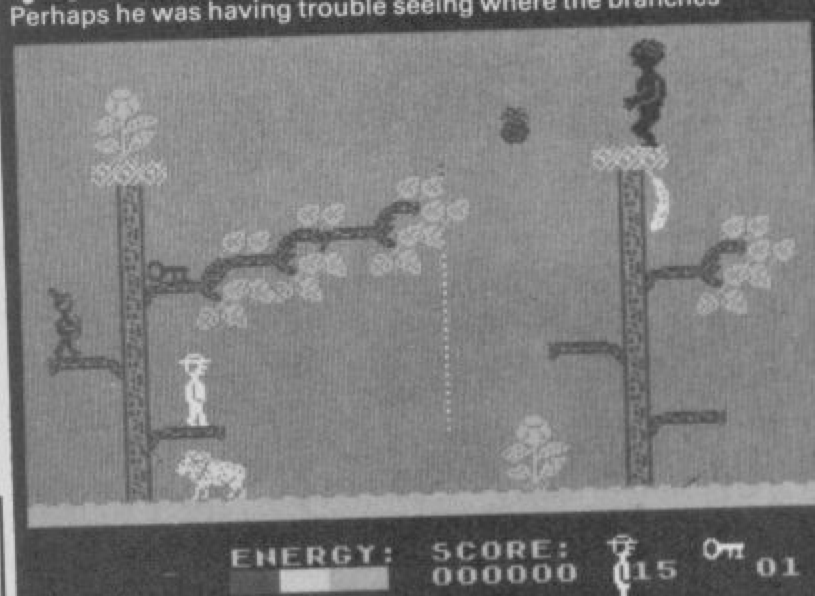
Raiders of the Lost Ring

IS THE THOUGHT of searching for a misplaced ark too much? How about starting with something smaller, like a £1 coin or a contact lens? Or how about a ring? And why not change your name to California Smith while you're at it, because you wouldn't like to infringe anybody's copyright, would you?

This game proved very difficult to load but, unfortunately, eventually it did, to reveal a jungle landscape filled with falling apples, nasty natives with deadly arrows, vines to swing on and a key to collect. Quite why you should need a key in the jungle is a puzzle but let that pass.

To achieve that end you are given 24 lives but an amount of energy which wanes even as you stand. Fairly accurate timing is called for but a bit of practice will get you into the next screen which adds deadly bushes, a rabid sheep — probably intended as something slightly more ferocious — and a black blob which throws fireballs at you. Oh yes, and there's another key.

No Harrison Ford, your tiny hero — more a Harrison C5 — though he does have the useful ability to stand in mid air. Perhaps he was having trouble seeing where the branches



finished, the pink-on-cyan colour scheme being delightfully Habitat but less than clear. Another novel feature is that if you hit 'Jump' immediately after 'Forward' you leap forward instead of straight up, making accurate timing difficult.

The minimal instructions claim "about 50" screens but I've no desire to find out, as each one repeats the same elements, although there is the promise of shooting on later screens. If you are looking for some mindless sub-arcade game at a budget price this might suffice, but as it's selling for the price of far superior programs, leave well alone. *Jerry Muir*

Publisher Arcade Systems **Programmer** Mats Emilson
Price £5.95 **Memory** 48K **Joystick** Not stated
★★

Mikie

JONATHAN SMITH, who has adapted **Mikie** from an original arcade version by Konami, has inscribed his name not only misspelt but backwards. as if to disclaim full responsibility. An ominous sign, but the game is not quite as bad as you might fear.

Mikie is set in an American high school — it helps to know this as some of the graphics are not instantly recognisable to those of us unfamiliar with things like locker rooms and cheerleaders. The thoroughly un-British plot involves Mikie's attempts to get a message to his girlfriend — and here any resemblance with reality as we know it ends.

To achieve his aim, Mikie has to rush around collecting the hearts scattered around the school building. The game starts in the classroom where, each time a heart is gathered, one letter of a message is displayed at the top of the screen.

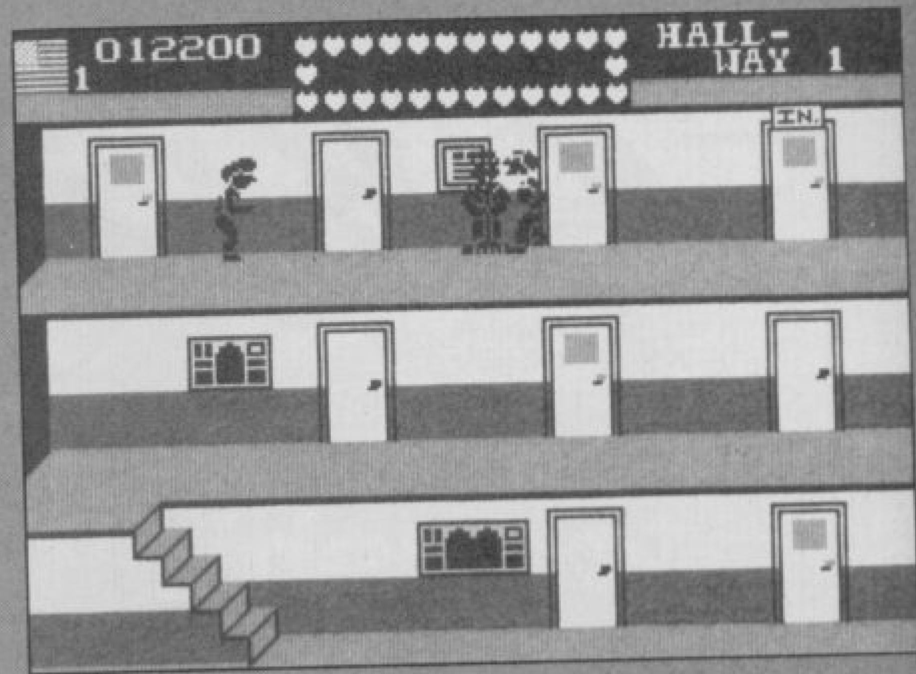
When all the hearts have been picked up, and the message completed — including exclamation mark — the classroom door miraculously unlocks, and Mikie is able to proceed to the hallway, which in turn leads to the locker room with more hearts and another message to be completed. The locker room is followed by canteen, and then the gym, and finally the schoolyard where, if all goes well, Mikie can convey his meaning to the young lady.

The scenario may seem novel, but this is a classic platform and ladders game, with the rows between desks, lockers or canteen tables replacing the traditional levels and stairways. As in earlier examples of the genre, the hero has to accomplish certain tricky tasks on each level, while keeping out of the way of those out to thwart him.

On the first screen, representing the classroom, the task is to pick up the hearts lying under the desks of the other pupils — who by some strange quirk of the American educational system all seem to be girls. To get at the hearts, Mikie must first dislodge the desk's occupant by 'hip-zapping' her three times and then walking over the heart.

Hip-zapping, which uses a direction key and fire key simultaneously, and picking up the heart both require very accurate positioning, and meanwhile the class teacher, who is unusually persistent and hard to shake off, is in hot pursuit. Caught by the teacher, or zapped by the false teeth (?) which he hurls when in a rage, Mikie loses a life.

In the hallway, a janitor, aided and abetted by a dustbin, is determined to stop Mikie from reaching the door of the locker room. Inside the locker room, things get even more difficult, as there are three people in authority out to get Mikie, and three hearts to be retrieved



from each locker before the message is completed.

The next screen is slightly easier, as Mikie is able to stun his pursuers with the chickens which have conveniently been left lying around on the canteen tables. But things hot up again in the gym where what looks like the sultan's dancing girls, but are apparently cheerleaders, can paralyse Mikie with a kiss. Wow.

Mikie may well prove to be as much a test of your patience as of your skill. Every time you lose a life, you keep your score, but you have to start collecting the hearts and building up the message on that particular screen all over again.

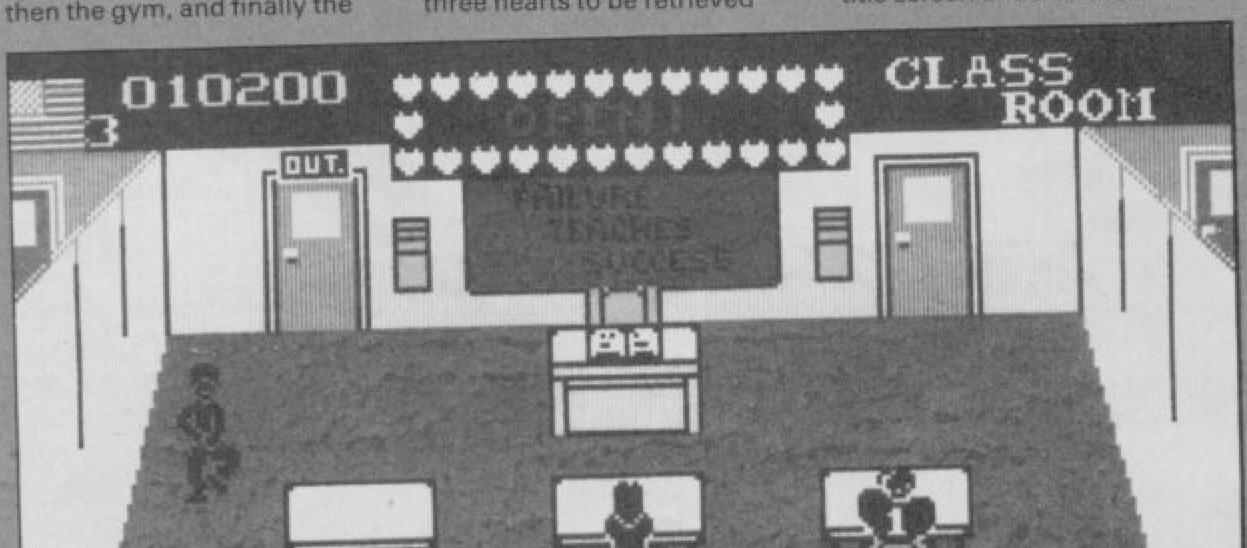
After you have lost five lives, which doesn't take very long at first, you go right back to the title screen and a Beatles medley which becomes more infuriating every time you hear it. However, if you persist beyond the extreme frustration of the early stages of the game, you will inevitably get better at it, and find your progress more satisfying.

Patience is also the key to completing each screen. Mikie has only a limited amount of time before his persecutors catch up with him, but he can also collect the hearts in stages — for instance, he can hip-zap once, then make himself scarce and come back to finish the job later. So the secret is to concentrate on losing the attackers, rather than being in a hurry to pick up hearts.

Don't be misled by the screen shots of the arcade version featured on the inlay. The graphics are competent but hardly distinguished. Mikie's manic Charlie Chaplin walk is amusing, and there are nice touches like the pupils forever putting their hands up, but mostly the graphics consist of various square shapes denoting desks, tables stairs and the like, and a lot of bustling figures and flying objects. The humour, as represented by false teeth, dustbins, and chickens is not to everyone's taste and certainly didn't have me rolling in the aisles.

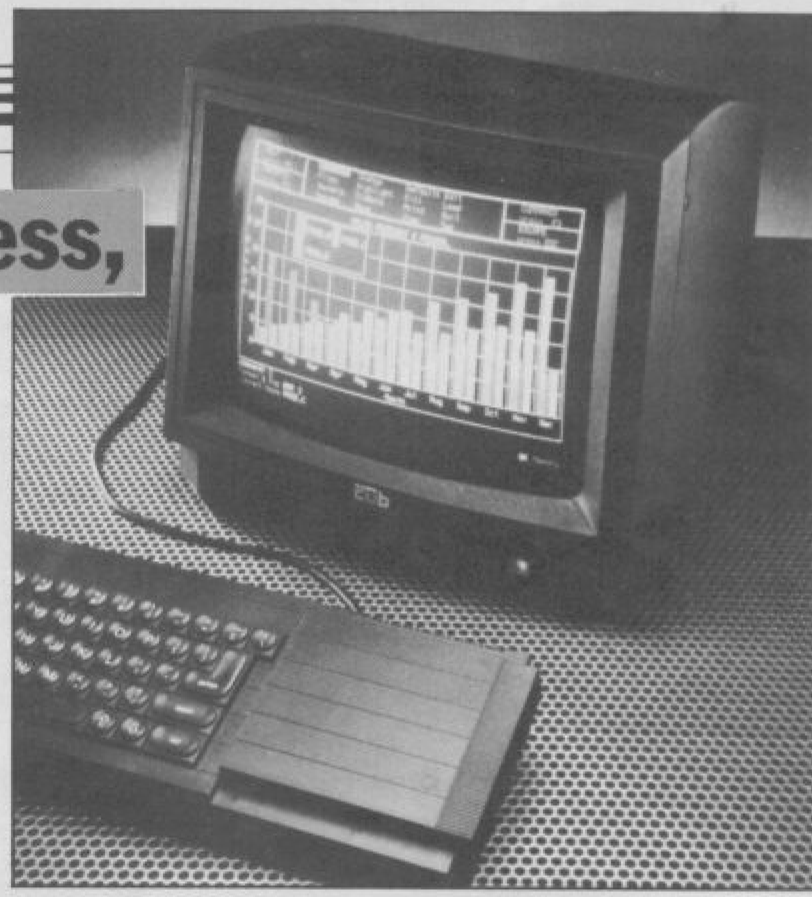
Having said all that, **Mikie** is a worthy game, with enough suspense and difficulty to keep you interested in plugging on from screen to screen. Provided you are the sort that doesn't give up easily, it should keep you entertained for a while.

Nicole Segre



Publisher Imagine
Programmer Jonathan Smith
Price £7.95
Memory 48K
★★★

Which means business, Spectrum or QL?



QL at work — can the Spectrum compete?

EVER SINCE its launch the Spectrum has never been considered as a business computer. Yet it is still being used by a considerable number of companies, including some very large ones.

It was hoped that the QL would be taken much more seriously. Various factors, including all the old familiar problems with delays and reliability, consigned it initially to a limbo acknowledged as a powerful machine using tomorrow's technology, resisted for serious use. When many of the problems were finally sorted out the QL was already being caught up and surpassed by the market.

A reduction in price, together with the improved quality, has changed the picture and many companies are reconsidering it as a possibility for their needs. With the QL moving into the Spectrum market, does the Spectrum still have a role to play in business, or should it now be seen purely as an entry level games machine?

For many people a business computer should have one disc drive — preferably two, at least 64K of memory, output to a monitor and a range of other output ports. In addition, it should use either the CP/M or MSDOS operating systems.

Neither the Spectrum or QL have all those features. The Spectrum has 48K of memory, output to TV, tape storage and no other output ports, while the QL includes 128K, two microdrives for fast storage and output to TV or monitor. A suite of very good programs — word processing, spreadsheet, database and business graphics is bundled with the QL. That suite alone is worth the £199 price.

Should you want to speed up saving and loading by adding microdrives to your Spectrum, it is going to cost a further £120 for the interface and two microdrives. Of course, disc drives are available for both the Spectrum and QL but adding one will cost about £200. On the face of it, it would seem impossible for there to be any life left in the Spectrum for business use.

However, all that assumes that your computer will be used for a range of programs throughout the working day. It makes no assumptions about dedicating a computer to a single task. Word processors are dedicated computers and there are perhaps more of those than any other type of computer. The use of dedicated computers is likely to be one of the few growth areas for computers.

There are several factors which make the Spectrum suitable in this area. A major factor is obviously going to be the cost of the whole system and, while it may be more expensive to buy a Spectrum with twin microdrives than a QL, the Spectrum Plus is still £70 cheaper. If you can find an old rubber keyboard model the saving could be £140.

The cost of software is another factor. The best programs retain many of the features of programs written especially for business computers while being about one tenth of the cost. Using a television to display results means that a further £30 or £40 can be saved.

The Spectrum is a small, robust machine which has a little footprint — it takes up little desk space. It can stay switched on all day and stands up to considerable wear and tear. Saving and loading from cassette tape is, admittedly, slow and tedious. However cassette tape is probably the safest medium for storing data.

All those features combine to make the Spectrum highly suitable as the basis of a cheap dedicated system — such as for stock control, where it needs to be turned on first thing in the morning and will be left running all day.

The Spectrum will continue to be used where it has already made its mark and a reduction in price could renew interest — at the time of writing Asda is selling the Spectrum Plus for £70. It may also be that as a generation of young gameplayers grow up either they, or their parents, will start using their old forgotten Spectrums in business. Undoubtedly, the Spectrum is not dead where the business market is concerned.

Mike Wright

Numbers at Work

THIS IS another in the Brainpower series published by Collins Soft. The motto of the series is 'Application through Learning' and each title has an introduction to the basics of a manual which also doubles as a text book, a teaching program and an applications program.

The teaching module is some 180K long and spread over seven programs. It is designed to develop those numeracy skills most often used in day-to-day business.

Each section is followed by a test. At the start you are asked to decide whether you want to set a pass rate, if so it must be achieved before you can proceed to the next section. One option of the teaching program is a calculator which can be displayed and used on the screen; it seems rather pointless, since it is either not available when you need it, particularly during the tests, or you are moved on to another example after using it.

Though **Numbers at Work** is targeted for use in business, and not school, the teaching module resembles the sort of programs which gave educational computing a bad name. The overall impression is not helped by a Backpage prompt which seems almost impossible to get rid of, and a Finish option which simply freezes the screen, leaving the user to reset manually.

The applications program provides an easy way of using the techniques learnt earlier. Options offered include Discount Margin Mark-up & VAT, Salary & PAYE, Commission & Brokerage, and Interest. Each option displays a one screen chart on which you can enter numbers. Once enough numbers have been entered the remaining entries are calculated automatically. A hard copy of the chart can be printed. Changing tax and allowance rates affect some calculations and while the program is set up for rates following the 1984 budget they can be changed. Unfortunately, the program cannot be saved with the new rates and you must enter them every time the program is loaded.

In summary, the teaching package is uninteresting, and the loading time for the applications package is likely to deter people from using it. This is the most disappointing of the Brainpower series, especially in dealing with a topic which, arguably, needs to be made much more lively and interesting.

Mike Wright

Publisher Collins Soft
Price £14.95
Memory 48K
★★



ZX SPECTRUM

TASWORD TWO
THE WORD PROCESSOR

TASWORD TWO for the ZX 48K Spectrum cassette £13.90 microdrive cartridge £15.40

"Without doubt the best utility I have reviewed for the Spectrum"
HOME COMPUTING WEEKLY APRIL 1984

"If you have been looking for a word processor, then look no further"
CRASH JUNE 1984

With 64 characters per line on the screen and a host of useful features TASWORD TWO is the ideal word processing package for the Spectrum owner.

TASPRINT
THE STYLE WRITER

TASPRINT for the ZX 48K Spectrum cassette £9.90 microdrive cartridge £11.40

A must for dot matrix printer owners! Print your program output and listings in a choice of five impressive print styles. TASPRINT utilises the graphics capabilities of dot matrix printers to form, with a double pass of the printhead, output in a range of five fonts varying from the futuristic Data-Run to the hand writing simulation of Palace Script. A TASPRINT gives your output originality and style! The TASPRINT fonts are shown below together with a list of compatible printers.

TASMAN PRINTER
INTERFACE

TASPRINT PRINTER INTERFACE for the ZX Spectrum £39.90
RS232 Cable for ZX Interface 1 £14.50

Plug into your Spectrum and drive any printer fitted with the Centronics standard parallel interface. Supplied complete with ribbon cable and driving software. The user changeable interface software makes it easy to send control codes to your printer using the method so successfully pioneered with TASWORD TWO. The cassette contains fast machine code high resolution full width SCREEN COPY SOFTWARE for Epson, Mannesmann Tally, Shinwa, Star, Tandy Colour Graphic (in colour!) printers. TASCOPY shaded screen copy software for this interface (value £9.90) is INCLUDED in this package.

The TASCOPIES and TASPRINTS drive all Epson compatible eight pin dot-matrix printers e.g.

AMSTRAD DMP 2000	NEC PC-8023B-N	BROTHER M1009
EPSON FX-80	MANNESMANN TALLY MT-80	BROTHER HR5
EPSON RX-80	STAR DMP 501/515/5610	SHINWA CP-80
EPSON MX-80 TYPE III	COSMOS-80	DATAC PANTHER
		DATAC PANTHER II

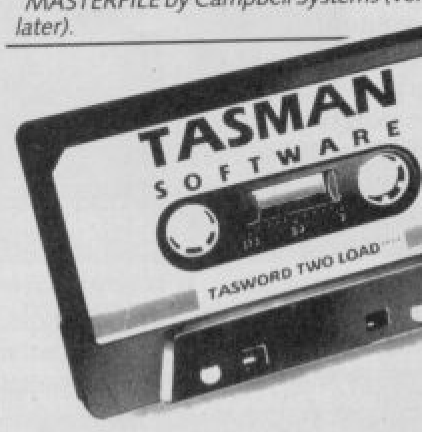
COMPACTA - bold and heavy, good for emphasis
DATA-RUN - A FUTURISTIC SCRIPT
LECTURA LIGHT - clean and pleasing to read
MEDIAN - a serious business-like script
PALACE SCRIPT - a distinctive flowing font

TASPRINT output shown at less than half size

TASMERGE
THE MAIL MERGER

TASMERGE for the ZX 48K Spectrum cassette £10.90

Transfer data from MASTERFILE to TASWORD TWO! Letters and forms typed on TASWORD TWO can be printed with addresses and data taken from MASTERFILE. The mail merge facility allows, for example, multiple copies of a letter to be printed, each containing a different name and address taken from your MASTERFILE data. To use TASMERGE you must have one or more microdrives as well as TASWORD TWO and MASTERFILE by Campbell Systems (version 9 or later).



TASWIDE
THE SCREEN STRETCHER

TASWIDE for the ZX 48K Spectrum cassette £5.50

With this machine code utility you can write your own Basic programs that will, with normal PRINT statements, print onto the screen in the compact lettering used by TASWORD TWO. With TASWIDE you can double the information shown on the screen!

AMSTRAD CPC 464–664–6128

With the exception of TASWORD 6128 all the programs described below run on all of the 464, the 664, and the 6128.

TASWORD 464
THE WORD PROCESSOR

TASWORD 464 for the Amstrad CPC 464, 664, and 6128 cassette £19.95

"There is no better justification for buying a 464 than this program"
POPULAR COMPUTING WEEKLY NOVEMBER 1984

ZX SPECTRUM
MSX·EINSTEIN

TASCOPY
THE SCREEN COPIER

TASCOPY for the ZX Spectrum with Interface 1 cassette £9.90 microdrive cartridge £11.40

The Spectrum TASCOPY is for use with the RS232 output on ZX Interface 1. It produces both monochrome (in a choice of two sizes) and large copies in which the different screen colours are printed as different shades. With TASCOPY you can keep a permanent and impressive record of your screen pictures and diagrams. A list of printers supported by TASCOPY is given to the left.

TAS-DIARY
THE ELECTRONIC DIARY

TAS-DIARY for the ZX 48K Spectrum and microdrives. Cassette £9.90

Keep an electronic day-to-day diary on microdrive! TAS-DIARY includes a clock, calender, and a separate screen display for every day of the year. Invaluable for reminders, appointments, and for keeping a record of your day. The data for each month is stored as a separate mirodrive file so that your data for a year is only constrained by the microdrive capacity. TAS-DIARY will work for this year, next year, and every year up to 2100! Supplied on cassette for automatic transfer to microdrive.

TAS-SPELL
THE SPELLING CHECKER

TAS-SPELL for the Amstrad CPC 464 and 664 running TASWORD 464-D and for the CPC 612[illegible] running TASWORD 6128 disc £16.50

TAS-SPELL checks the spelling of TASWORD 464 and TASWORD 6128 text files. TAS-SPELL has a dictionary of well over twenty thousand words wh[illegible] are compared with the words in your text file. You can add your own specialised words to the TAS-SPELL dictionary. Please note that TAS-SPELL will only work with TASWORD 464-D and TASWOR[illegible] 6128.

Available from go[illegible]

Tas
SO[illegible]

Springfield House, Hyde Terr[illegible]

TASWORD 464-D
THE WORD PROCESSOR

TASWORD 464-D for the Amstrad CPC 464, 664, and 6128
disc £24.95

This is the new TASWORD especially developed to utilise the capabilities of the Amstrad disc drives. A major new feature is a powerful mail merge facility. TASWORD 464-D will only run on, and is only supplied on, disc.

TASWORD 6128
THE WORD PROCESSOR

TASWORD 6128 for the Amstrad CPC 6128
disc £24.95

TASWORD 6128 utilises the additional 64K of memory in the CPC 6128. This gives text files that are over 60K long. TASWORD 6128 includes mail merge and all the other features of TASWORD 464-D. With a new notepad mode and other additional capabilities TASWORD 6128 is the most powerful of the TASWORDS.




TASPRINT 464
THE STYLE WRITER

TASPRINT 464 for the Amstrad CPC 464, 664, & 6128
cassette £9.90 disc £12.90

Can be used to print AMSWORD and TASWORD text files in addition to output from your own Basic programs. Drives the Amstrad DMP-1 in addition to the printers listed on the opposite page.

PRINTER CABLE FOR AMSTRAD CPC 464, 664, and 6128 £9.90

COMMODORE 64

TASWORD 64
THE WORD PROCESSOR

TASWORD 64 for the Commodore 64
cassette £17.95 disc £19.95

Many Commodore 64 owners have asked for this product which is now available. All the well known TASWORD features plus eighty characters per line on the screen! This is the only word processor for the Commodore 64 giving eighty characters per line on the screen – so that "what you see is what you get" on eighty column printers.

TASPRINT EINSTEIN
THE STYLE WRITER

TASPRINT EINSTEIN for the Tatung Einstein
disc £14.95

Print TASWORD EINSTEIN text files in one or more of the TASPRINT fonts.

SINCLAIR QL
QL is a trademark of Sinclair Research Ltd

TASCOPY QL
THE SCREEN COPIER

TASCOPY QL for the Sinclair QL
microdrive cartridge £12.90

TASCOPY QL adds new commands to QL Superbasic. Execute these commands to print a shaded copy of the screen. Print the entire screen or just a specified window. TASCOPY QL also produces large "poster size" screen copies on more than one sheet of paper which can be cut and joined to make the poster.

TASPRINT QL
THE STYLE WRITER

TASPRINT QL for the Sinclair QL
microdrive cartridge £19.95

TASPRINT QL includes a screen editor used to modify files created by other programs, such as QUILL, or by the user from Basic. These modified files include TASPRINT control characters and may be printed, using TASPRINT, in one or more of the unique TASPRINT fonts.

·AMSTRAD · QL
·COMMODORE

TASCOPY 464
THE SCREEN COPIER

TASCOPY 464 for the Amstrad CPC 464, 664, and 6128
cassette £9.90 disc £12.90

Adds two new Basic commands to give both a standard shaded screen copy as well as a "poster size" copy which is printed onto two or four sheets which can be cut and joined to make the poster. Drives the Amstrad DMP-1 in addition to the printers listed on the opposite page.

TATUNG EINSTEIN

TASWORD EINSTEIN
THE WORD PROCESSOR

TASWORD EINSTEIN for the Tatung Einstein
disc £19.95

A sixty four character line display and the ability to hold over five hundred lines of text at any time are just some of the features of this TASWORD for the Tatung Einstein. Full interaction with the disc system – e.g. TASWORD detects the presence of added drives and allows their use.

MSX 64K COMPUTERS

TASWORD MSX
THE WORD PROCESSOR

TASWORD MSX for 64K MSX computers
cassette £13.90
MSX PRINTER CABLE £8.00

With all the features of the Spectrum TASWORD TWO including the amazing sixty four character per line display. The TASWORD MSX machine code program utilises the 32K of memory not normally available to Basic allowing over five hundred lines of text to be held in memory. The cassette includes a version of the program that can be transferred to disc.




stockists and direct from:

Tasman SOFTWARE

Leeds LS2 9LN. Tel: (0532) 438301

If you do not want to cut this magazine simply write out your order and post to:
TASMAN SOFTWARE, DEPT SU, SPRINGFIELD HOUSE, HYDE TERRACE, LEEDS LS2 9LN

I enclose a cheque/PO made payable to TASMAN SOFTWARE Ltd OR charge my ACCESS/VISA number: ....

	ITEM	PRICE
NAME ______	______	£ ______
ADDRESS ______	______	£ ______
______	______	£ ______
______	______	£ ______
______	Outside Europe add £1.50 airmail per item	£ ______
Telephone Access/Visa orders: Leeds (0532) 438301		TOTAL £ ______

Please send me free TASMAN brochure describing your products: ☐ Tick Here. I would like to know more about your programs for QL ☐ Tatung Einstein ☐ ZX Spectrum ☐ MSX ☐ Amstrad ☐ Commodore 64 ☐ All prices include VAT, postage and packaging SU

Death reports are much exaggerated

THE DEATH of the QL is imminent! cry the prophets of doom who like to think the demise of the much maligned machine is just around the corner.

However, the QL is not sunk yet. Despite the rumours, I have it on good authority that the official Sinclair Research sales figure is 150,000 which is a marked increase on sales of 70,000 six months ago.

I would be more conservative in my estimates, but from talking to retailers, such as Transform, East London Robotics and Digital Precision, it seems that sales have breached the 100,000 mark since the price dropped to £199.

An estimated 20 per cent of those units is going abroad where the market is substantial. All I can say is any more advances on 100,000? Answers on a postcard please.

The truth is, however, that QL sales and support are more healthy than at any time during its troubled life. Sinclair has released six products, ranging from arcade games to an upgraded version of Talent's **GraphiQL**. **Bounder** is a levels and ladders game with 59 locations. You must collect as many objects as you can, and for every object you pick up you get an extra life.

QL Jabber is described as a classic zap 'em game with 26 screens full of disease and potential death. You must fight off the deadly viruses and bacteria, protecting your body with packets of antibiotics. **Quboids** is similar in concept, but consists of four platforms on which you are constantly under attack from manic monsters. To stop them, dig holes which they should fall down.

On a more serious level **QL Macro Assembler**, produced for Sinclair by those Cambridge GST giants, makes assembly of 68008 machine code easy with full screen editor, and a macro library which allows you to tap into the heart of QDOS.

QL Paint is a suped-up version of **GraphiQL**, produced for Sinclair Research by Glasgow software house Talent. The package uses icons and drop down windows, turning the QL into a coloured Apple Macintosh. There are 50 individual shape and pixel manipulation commands which can be combined to produce 4,000 graphics operations.

Sinclair is also releasing some serious games. **QL Classic Adventure** may be familiar to those who own a Spectrum. It is a two-program package which includes **The Adventure** and **Mordon's Quest**, both written by Abersoft from the original Crowther and Woods adventure. They are set in a fantasy world of dwarfs, serpents, and strange objects.

QL Fictionary is for those who like word puzzles. It has an 18,000 word dictionary which is used to provide two types of game. The first is **Call my Bluff** where you are given four definitions of a randomly selected word, you must then select the correct definition. The other game, **Word Hoard** sets up anagrams for you to solve.

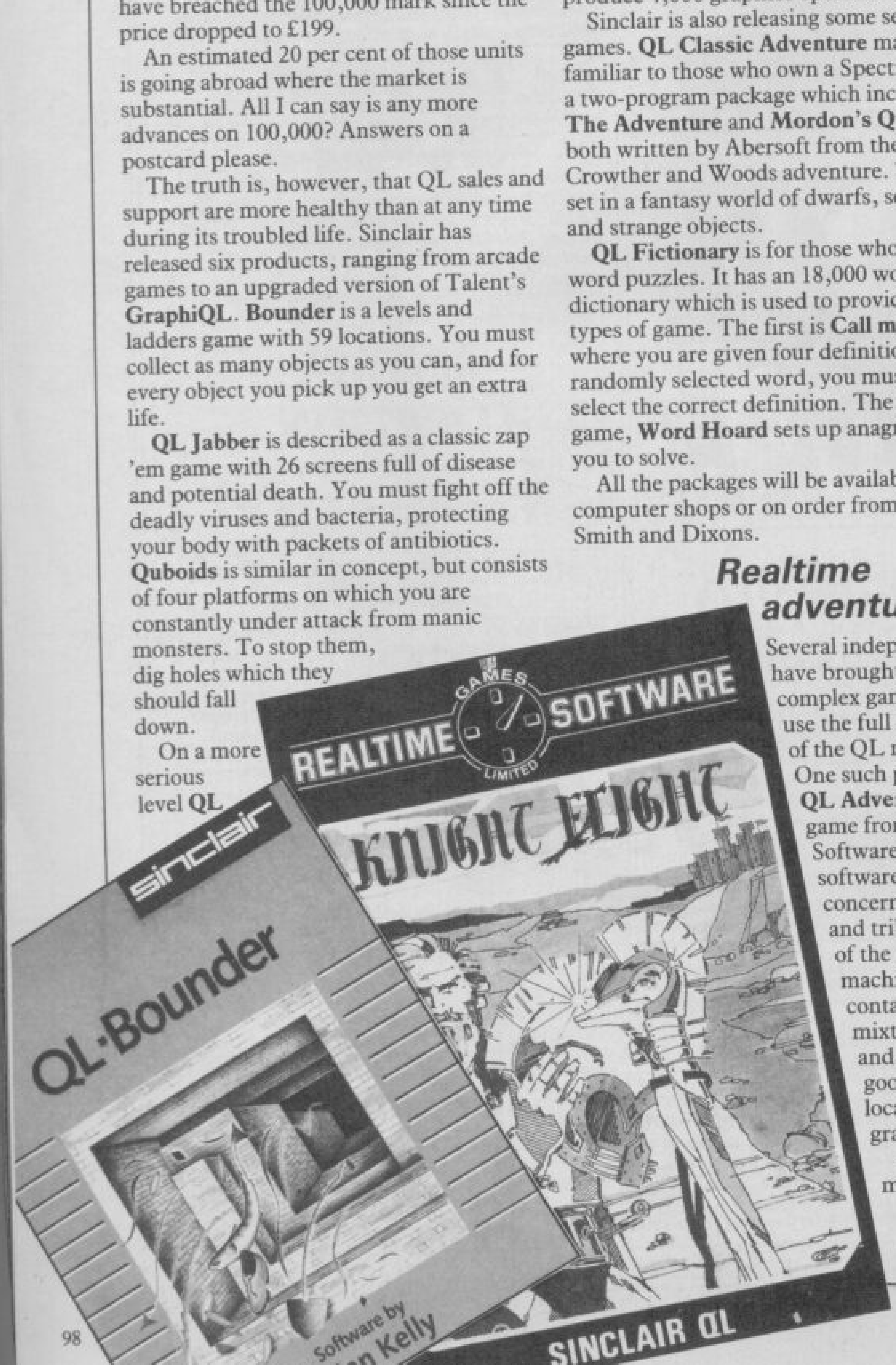
All the packages will be available from computer shops or on order from WH Smith and Dixons.

Realtime adventure

Several independents have brought out complex games which use the full resources of the QL memory. One such product is **QL Adventure**, a game from Optimus Software, a new software house. It concerns the trials and tribulations of the troubled machine and contains a mixture of text and reasonably good static location graphics.

If you are more interested in arcade graphics but prefer strategy games, then **Knight Flight** from Realtime Software will have you in fits of ecstasy.

Written by the programmers of **Starstrike** — available for the Spectrum — it uses full colour sprites to depict a knight's quest for glory over a shifting landscape. For £14.95 it represents good value for money and can be obtained from



Transact

TRANSACT, a book keeping system for small businesses, is not designed as a complete accounting system like Integrated Accounts **as there is no sales ledger or purchase ledger. It is designed to control a company's day books and nominal ledger.**

As with all book keeping systems, transactions are assigned to various types and names of accounts. The 100 accounts available are divided into ten sections of ten accounts. The ten accounts in the first section are pre-assigned as control accounts. The remaining 90 can be named by the user. Obviously, professional advice on the grouping and naming of accounts should be sought beforehand.

Naming and subsequently amending the account headings — except for the control accounts which cannot be changed — is done easily via the

Super Arcadia

DIGITAL PRECISION has set the games market back three years with a two-package offering, called Super Arcadia. **It is notable for its awful graphics, flat music, and the appalling use of English in the instructions.**

The instructions are held on a Quill **file, so you have to access the word processor before you can read them. One consolation is that you can print them out and keep a hard copy. However, it would have been easier to include them in the games or on the packaging.**

The package provides a two option menu from which you can select the game BMX Burner **or** Grid Racer. **When I first saw** BMX Burner **I could not believe my eyes, and when I started to play it my suspicions were confirmed. The game is just about playable but would anybody who owned a QL want to?**

Mr Mercury takes his supercharged — surely not! — BMX bike for a trip around a universe of screens which look as if they have been created for retired Binetone Games Console players. He must move carefully past the luridly coloured obstacles, avoiding moving rockets and picking up stationary bombs which he can drop on the evil guardian of each screen.

The idea is to collect a series of objects in the correct order. Once you have found the motley array of keys, learner plates, copyright symbols and little cases — to name but a few — you

Account File Handling option of the main menu. Account headings, balances and a trial balance can be displayed or printed. Balances in accounts can also be transferred to the profit and loss account. This will produce a sort of balance sheet when completed.

Data for the transactions is entered as one of five types — cash, bank, sales, purchase or journal. The date, name of debtor or creditor and a reference, described as transaction folio, are entered together with the total amount, which is automatically assigned to one of the control accounts. The total is then broken down into different account headings, the account number being entered before the amount.

The list of account headings can be displayed instantly on-screen. That saves having to stop every time to look up the account number from a printed list in the way that many packages seem to expect. As an aid to getting the double entry right, the sum of the separate amounts must equal the total before you are allowed to enter another transaction. A reducing balance, showing how much of the total is still outstanding, would be a helpful addition.

A wide range of reports can be displayed or printed. The utility option allows the parameters to be set for your printer and, should you forget, you are then given the opportunity to set it when you try to print your first report. The transactions can be reported on individually, as a summarised list including the breakdown between accounts, a list by amount and control account, or those in a given account.

The amounts, details and account posted to are also available. However, once the balances are updated — which should happen at the end of each session — the individual transaction details are lost. In addition, all accounts and balances can be listed on the screen.

Transact has many features to commend it. It is relatively easy to use, the screen layouts are clear and easy to read and, in general, the error trapping is good. Although not a problem in itself, the program is written in SuperBasic which means that loading seems to take forever, and it does crash if CTRL and SPACE are pressed together.

However, I found the biggest problem was the manual. Apart from being written originally for another version — an amendment slip is added for the QL version — I found it difficult to read and follow.

Mike Wright

Publisher Dialog Software, 20 New Row, London WC2N 4LA
Price £34.95
★★★★

Realtime Games Software Ltd, Prospect House, 32 Sovereign Street, Leeds LS1 4BT

Into print

Tasman, the company responsible for the Tasword wordprocessor on the Spectrum, has produced two print utilities for the QL.

Tascopy adds new commands to SuperBasic which will copy a screen through the RS232 interface onto an Epson compatible printer. It can also be used to print a specified window and create poster size prints which can be put onto several sheets of paper.

Tasprint QL is called **The Style Writer** by Tasman. It includes a screen editor which can be used to modify files which have been created by word processor programs, or your own Basic. These files can then be printed in a number of fonts using special control codes.

Supercharge

Software launch of the year, so far, is from Digital Precision which has just released four new packages.

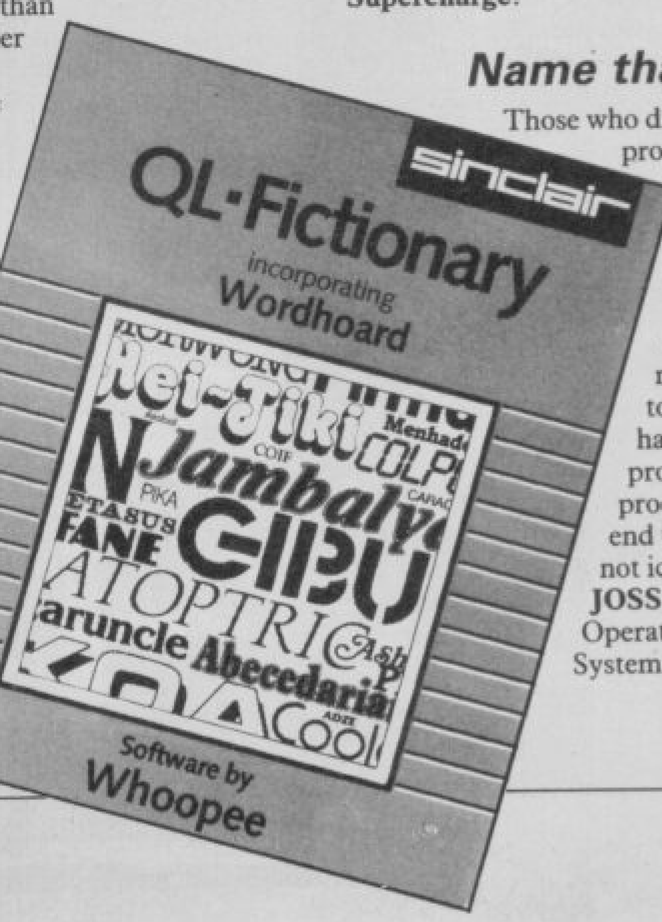
Supercharge is the major release. It is a powerful SuperBasic compiler which turns the high level language into machine code, using a procedure which is simpler than any other compiler on the market.

It will compile all SuperBasic commands — including graphics, sound, procedure, and loop instructions — using four passes. When the package is booted a set of SuperBasic extensions, dealing with multi-tasking, are loaded. You can then load in your own SuperBasic listing and merge **Supercharge** with it, ready for compilation.

The compiler automatically saves compiled code to microdrive and you can run any of them as tasks, adjusting their QDOS priorities using the SuperBasic extensions.

The package can, and has been used by professional software companies for a one-off payment of £250. Users include Eidersoft, Talent, and Strathclyde University.

QL Astrology, also from Digital Precision, is the most interesting launch of the month. It provides accurate birth charts and correlates aspects using the Placidus and Equal House systems. New versions of both products are soon to be released, and next month's *Sinclair User* will include an indepth review of **Supercharge**.



Name that utility

Those who dislike icon driven programs have argued that they cannot understand what the icons mean. WD Software, a relative newcomer to the QL market, has got around the problem by producing a front end utility which uses not icons, but words.

JOSS — Joystick Operated Software System — can be

can move onto the next screen. If, however, you are hit by a missile or guardian you will lose one of your nine lives.

It is a blessing in disguise that you are more likely to run out of lives than finish all the screens. I certainly could not handle more than three screens.

Grid Racer is a different proposition — not much different, but different enough. It does not involve cars, bikes or even C5s. You must use Shankses Donkey to get around a field and defuse a bomb before it explodes. You can only move sideways and cannot recross your path which is marked with a thick black line.

Beware of the mines, they will blow up. I'm not sure if they do as I was stopped early on in the game by what looked like pixel sized rocks. You can also shuffle left and right although that didn't get me any nearer the bomb whch provides a countdown from 50 to zero.

If anybody has managed to defuse the bomb in time I would like to hear from them — if only to send their name to the mental health council.

Firebird should buy this package from Digital Precision to provide a QL version of their infamous package of Basic Spectrum games — Don't Buy This.

John Gilbert

Publisher Digital Precision
Price £15.95
Joystick
★

operated from the keyboard, freeing you from typing in long file handling commands such as COPY . . . TO . . .

It uses menus of SuperBasic commands which can be selected and implemented using a cross-hair cursor. Also included is a realtime clock and a facility which allows you to check on the files stored on microdrive and disc.

Two versions are available, one for microdrive and the other for disc. The disc version can access microdrive but the microdrive version will not access disc.

The screen display initially looked a little confusing but, with the aid of the tightly worded manual I could see that the utility would be of some use to people who do not like typing in long commands.

On the other hand, **Q-Calc**, from Psientific Software, is utterly useless unless you want to turn your QL into a glorified calculator. Not surprisingly, the main display is of a digital calculator which has all the functions one would expect of a digital calculator.

It can be used to add, subtract, multiply and divide. It even has memorise and recall buttons which are controlled from the keyboard. Hmmm, interesting, but certainly not worth its exorbitant price tag.

*Whatever the size of your company, if you have any QL products which you want reviewed, or tips for fellow QL users, or perhaps queries about your machine, send them to John Gilbert, QLink, **Sinclair User**, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.*

QL Bounder
QL Jabber
QL Macro Assembler
QL Paint
QL Classic Adventure
QL Fictionary
Sinclair Research, Freepost, Camberley, Surrey GU15 3BR

QL Adventure £3.50
Optimus Software, Cheddars, Little Horkesley, Colchester, Essex CD6 4DJ

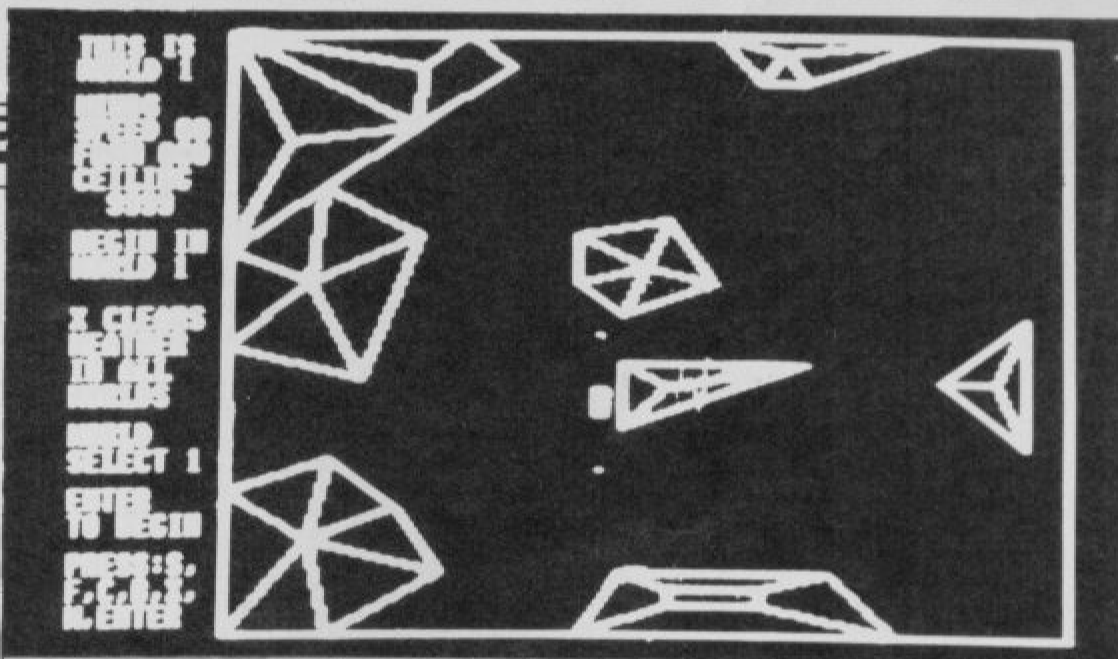
Knight Flight £14.95
Realtime Games, Prospect House, 32 Sovereign Street, Leeds SL1 4BT

Tascopy QL £12.90
Tasprint QL £19.95
Tasman Software, Springfield House, Hyde Terrace, Leeds LS2 9LN

Supercharge £56.95
Digital Precision Ltd, 222 The Avenue, Chingford, London E4 9SE

JOSS £15.00 (microdrive, 5¼in disc), £17.00 (3½in disc)
WD Software, Hilltop, St Mary, Jersey, Channel Islands

Q-Calc £9.95
Psientific Software, 37 Cottesmore Road, Hessle, North Humberside HU13 9JQ



QL Flight Simulator

AS THE QL is still widely thought of as a semi-serious machine, it is not surprising that Microdeal should bring out a flight simulator in the hope that enthusiastic potential pilots buy the micro.

The package simulates a light aircraft and, Microdeal reliably informs me, has been tested by a pilot. The instruction manual advises beginners to try Circuit Flying which is described in chapter seven. So, flicking through the pages I set myself up on the runway.

Before letting rip you must select the type of world you want to fly in. Each world, and there are ten, contains different terrains and conditions. They are shown as a block and you can choose your route through them at the beginning of the simulation. I chose world five and set the wind ceiling to zero (coward! Ed), started the ignition, set the flaps down, released the brakes and applied full throttle.

The engine noise is realistic, even down to the splutter of the propellers. The booklet takes you through an entire circuit of the airport and lets you down lightly with an easy landing — no cross winds.

Each world is portrayed using wire frame graphics. Those look fairly tacky but move in perspective with only a small amount of line break-up. Unfortunately, the speed at which the aircraft travels is not realistic, but what can you expect of a 16-bit chip computer on which the screen is difficult to manipulate, especially when trying to scroll?

If, unlike me, you are able to gain more than a basic control of the aircraft, you can climb to 1,500 feet, achieve 70 knots of airspeed and do some aerobatics.

Because of the elementary nature of the graphics and the lack of colour it is difficult to tell whether you are in the upward thrust of a loop or the downward bend without continually referring to your instruments. That rather defeats the purpose of the graphics window.

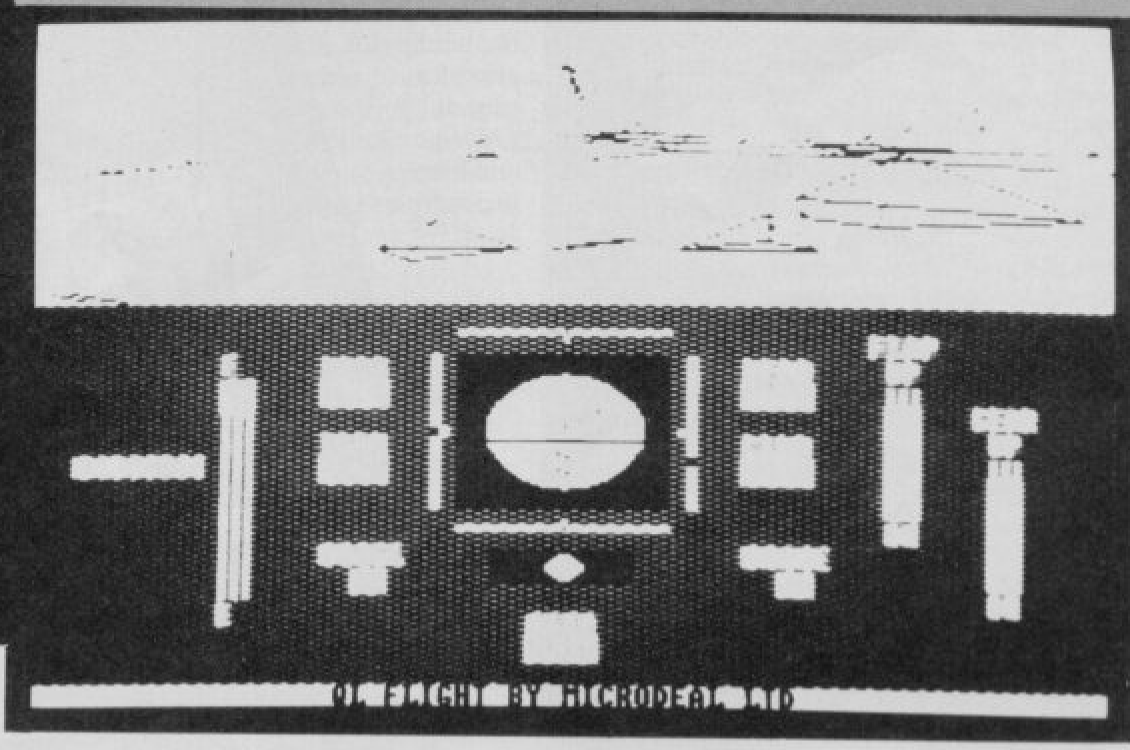
The most attractive and innovative aspect of **QL Flight Simulator** is the worlds environment system. Maps of each flying world are shown at the back of the instruction booklet and include the Arabian Gulf, Panama City, Island Bay and three mountain worlds of increasing complexity.

Although the software provides the best flight simulator for the QL, the presentation of the package leaves a lot to be desired. The booklet is inexpensively produced and some of the screen shots are a mixture of photographs overlayed with handwritten printing.

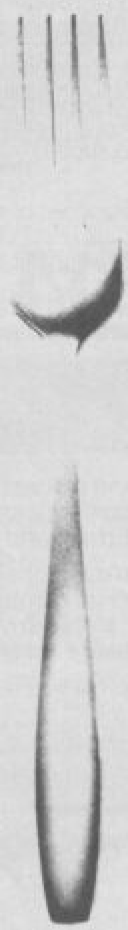
It is a pity that the presentation is so scruffy but, if you can put up with it, the program compensates for Microdeal's lack of polish.

John Gilbert

Publisher Microdeal
Price £19.95
Joystick
★★★★



A different menu every month.



The very best restaurant would never dream of running the same menu for more than a month.

After all, variety is the spice of life.

So too with Educational Computing. Each month we reflect the latest developments in the market. Hardware, software and peripherals, the latest books and courses...as every new day changes the face of computers in education, Educational Computing is always one step ahead.

EDUCATIONAL COMPUTING

Yes, I should like to subscribe to Educational Computing for one year at £15.

I enclose a cheque for £ ______

OR please charge my Access/Barclaycard

the sum of ______

Card Name ______

Card Number ______

Expiry Date ______

OR please invoice my school/LEA £ ______

Signed ______

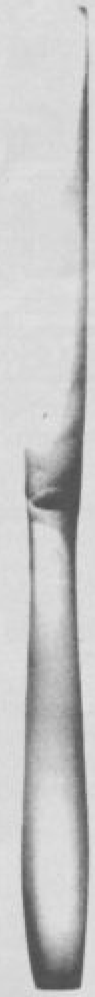
Name ______

Organisation ______

Address ______

______ Postcode ______

Telephone ______



We are always up-to-date, often provocative and never dull or repetitive.

Send us your completed subscription form today, and we'll ensure that your personal copy of Educational Computing is delivered direct to you in the first week of every month.

Please return the coupon to:

Educational Computing
Subscriptions Dept,
Priory Court,
30–32 Farringdon Lane,
London ECIR 3AU.

J & M SOFTWARE

The new discount software supplyer for your Spectrum

We also offer a unique buy back option!!!

For full details and software list send s.a.e. to:

J & M Software, Unit 1, Haven Mill, Garth Lane, Grimsby South, Humberside, DN34 1RS

PREMIER LEAGUE and EUROPEAN TROPHY

FOOTBALL MANAGEMENT STRATEGY GAMES FROM E & J SOFTWARE

PREMIER LEAGUE

OUR POPULAR LEAGUE GAME — FEATURES INCLUDE: Training, Team Selection, Substitutes, Half-Time Scores, Full Squad Details, Named Goal Scorers, Team Styles, Save Game, Financial Problems, PLUS MANY, MANY MORE!

AND NOW

EUROPEAN TROPHY

A SUPERB EUROPEAN COMPETITION STYLE GAME WITH THESE GENUINE FEATURES: Home & Away Legs, Away Goals Count Double, 2 Substitutes Allowed, Extra Time, Penalty Shoot-Outs (with sudden death), Match Injuries, Injury Time, Match Penalties, PLUS MANY, MANY MORE!

****

SPECIAL FEATURE

Transfer your PREMIER LEAGUE Winning side into EUROPEAN TROPHY.

****

48K SPECTRUM

Both these top quality games use the Full Memory of your Spectrum and can be played separately or as companion games so STOP SPECULATING — START MANAGING.

Both games are available by MAIL ORDER ONLY at the UNBEATABLE VALUE of £5.25 each. Or send SAE for full details.

SPECIAL TWIN PRESENTATION PACK OF BOTH GAMES AVAILABLE AT ONLY — £9.95.

Price includes postage & packing (add £1.00 outside UK)

E & J SOFTWARE
34 Lordship Road, Cheshunt, Herts EN7 5DP

RSD Connections Ltd

MONITOR LEADS

BBC to Microvitec	£2.20
TV to Computer	£1.25
Green Screen	£2.95
BBC to Fidelity etc.	£4.95
QL to Fidelity etc.	£4.95
Commodore to Fidelity	£4.95
Phono to Phone	£1.25
BBC to Ferguson	£2.50
QL to Microvitec	£2.50
QL to mono monitor	£1.50
BBC to Sony/Kaga	£5.95
BNC to BNC	£2.95
Commodore to Ferguson	£2.50
BBC to Hitachi	£2.50
SONY to Fidelity etc.	£6.50
MSX to Ferguson	£2.50
QL to Ferguson	£2.50

PRINTER LEADS

ALL 1 METRE LENGTH

BBC	£9.95
BBC serial	£8.95
AMSTRAD	£10.75
MEMOTECH	£12.75
EINSTEIN	£12.75
IBM PC	£15.75
SPECTRUM interface One to RS 232	£9.75
ATARI	£15.25
MSX	£13.95
APRICOT	£15.20
DRAGON	£9.95
QL	£10.75

ANY COMBINATION OF LEADS MADE TO ORDER

MISCELLANEOUS

TV Aerial Leads	
1.2m	£1.25
2m	£1.50
3m	£1.75
4m	£2.00
"Y" piece Switched TV Splitter. TV & Aerial leads plugged in without loss of signal	£1.95
Spectrum Power Supply replacement lead	£2.50
TOP QUALITY C15 Computer Cassettes	35p each.
Boxes of 10	£3.00

RIBBON CABLE (Price per ft)



	Grey	Rainbow
9-way	.13	.24
10-way	.15	.28
14-way	.18	.32
15-way	.20	.36
16-way	.22	.40
20-way	.30	.50
24-way	.36	.60
25-way	.40	.65
26-way	.45	.70
34-way	.60	.80
37-way	.65	.85
50-way	.70	.90
50-way	.95	£1.25
60-way	£1.10	£1.40
64-way	£1.15	£1.50

EDGE CONNECTORS

2 x 23-way (ZX-81)	£1.85
2 x 28-way (Spectrum)	£2.10
DOUBLE SIDED PLUG BOARDS	
ZX-81 23-way	£1.25
Spectrum 28-way	£1.50
ADDITIONAL IDC	
56-way Card Edge for Extension lead	£4.25

RANGE HIGH QUALITY BLACK
Dust Covers. Anti-Stat, Anti-Flame, rugged. Incl. Spectrum £3.25.
Spectrum + £4.50
QL £4.95 etc.

CONNECTORS IDC

	Card Edge	Trans PCB	2 Row Socket
10-way	£1.20	£0.85	£0.80
14-way	—	—	£0.90
16-way	£1.60	£1.20	£1.00
20-way	£1.90	£1.35	£1.20
26-way	£2.40	£1.60	£1.45
34-way	£3.10	£1.95	£1.60
40-way	£3.40	£2.00	£1.85
50-way	£3.85	£2.25	£2.00
60-way	£4.80	£2.60	£2.25

SPECTRUM EXTENSION LEADS

6 inch extension cable M to F	£10.50
6 inch F to 2M's	£14.75
12 inch extension cable M to F	£10.75

IDC SHROUDED HEADERS WITH EJECTING LOCKING ARMS

	Straight	Right Angle
10-way	.85	.90
14-way	£1.00	£1.20
16-way	£1.25	£1.45
20-way	£1.40	£1.60
26-way	£1.70	£1.95
34-way	£2.00	£2.30
40-way	£2.15	£2.45
50-way	£2.30	£2.65
60-way	£2.45	£2.85

D CONNECTORS

Solder Bucket	Male	Female
9-way	.75	£1.00
15-way	.95	£1.50
25-way	£1.50	£1.90
37-way	£2.40	£3.25
HOODS .95		

TELEPHONE CONNS

Surface master jack socket	£3.75
Surface extn socket	£2.50
Dual outlet adaptor	£4.25
Line jack cord 3 mtr	£1.85
4 core cable per metre	15p

PT Plugs each 48p.

IDC AMPHENOL

36-way plug	£4.95
36-way socket	£5.95
36-way plug (solder type)	£4.95

SPECTRUM DRIVES

RS232 WAFA lead 1m.	£10.50
Centronics WAFA lead 1m.	£10.50
Micro Extn. lead 12"	£6.00

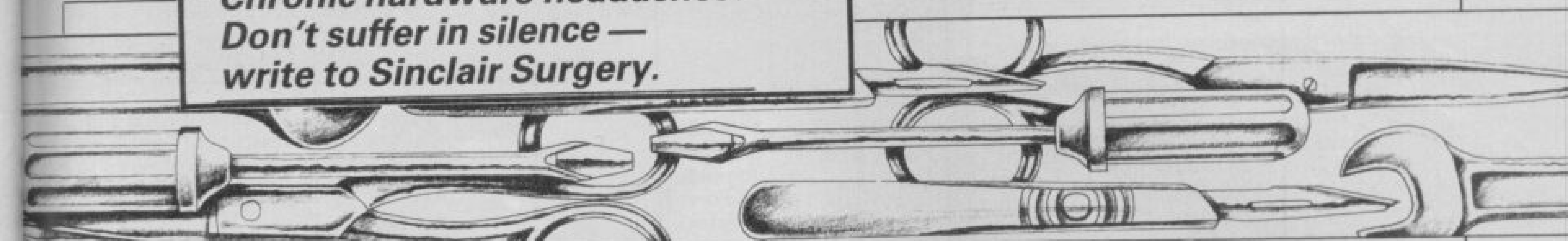
IDC D CONNECTORS

	Male	Female
9-way	£2.70	£3.20
15-way	£3.20	£3.70
25-way	£3.80	£4.45
37-way	£5.90	£6.80

TRADE ENQUIRIES WELCOME

75p. P&P IN UK. Access & Visa accepted. Add 15% VAT to all orders
Cheques made payable to
RSD Connections Ltd, Dept SU2
PO Box 1, Ware, Herts.
Tel: 0920 5285

Acute add-on allergy? Chronic hardware headaches? Don't suffer in silence — write to Sinclair Surgery.



Single key commands

AFTER reading your review of the Saga 3 Elite keyboard, I've decided to upgrade.

Unfortunately, this poses a problem — single key commands. I can't stand typing commands and DATA statements in full using the springy/squidgey keyboard but with a real keyboard, single key commands will be annoying.

Could you please print a fairly short program which would deal with this problem enabling me to type out commands in full.

Mike Lynch, Woking, Surrey

● *Such a routine would be too large for this page. Instead I would recommend the excellent* **Beta Basic** *from Betasoft. Among its many features is the facility to type in keywords in full.*

Spectrum will take a lead

I OWN an RGB monitor/TV with a seven-pin DIN socket and I am having a problem finding an interface to connect my Spectrum Plus.

In one of your back issues, you mention a firm called Adapt Electronics but its interface has a six-pin DIN socket.

Transform also does an RGB interface costing £45, while the Adapt interface is only £29.95, plus p&p.

Please could you advise me.

P Curtis, Barnard Castle, Co Durham

● *Both interfaces can drive an RGB monitor. The Transform interface has, by coincidence, a seven-pin socket but it is more important to connect the correct pins together, rather than how many there are.*

Contact both companies, telling them which monitor you have, and ask if they can supply a suitable lead. Then you will be in a better position to choose.



Saga Elite 3: In need of single key entry

Printer needs electrodes

I HAVE a ZX printer. Recently it broke due to one of the pair of electrodes which makes contact with the paper. Can you tell me where I can get hold of one of these electrodes?

Robert Douglas, Sedgefield, Co Durham

● *The official distributors of Sinclair spares is CPC — Tel: 0772-555034. The parts you need cost 10p but as CPC has a minimum order charge of £5.00 your best bet would be to order the electrodes through a company which repairs Spectrums.*

The interface connection

I'M INTERESTED in buying a cheap printer for my 48K Spectrum. I am thinking about the Alpahcom 32, the ZX printer or one of the Timex machines.

Which type of interface should I get, the Centronics or the RS232, and will those printers work with **Tasword 2**? In your October '85 issue, you said **Tasprint** wouldn't work with the Alphacom 32.

Shaun Carpenter, Great Bookham, Surrey

● *The Alphacom 32, Timex and ZX Printer only work on the ZX 81 and Spectrum and do not require an interface. Which interface you get for other printers depends on whether they are RS232 or Centronics.* **Tasword 2** *will work with virtually any printer, but* **Tasprint** *— generally speaking — will only work with a printer which requires an interface.*

Which printer you get depends very much on what you want it to do, and so I cannot recommend one. You will have least problems, however, if it is Epson compatible.

Interference on monitor

I'VE BOUGHT a Philips 80 monitor and after connecting it directly to the Spectrum, the result is worse than with my television.

I see on the monitor some shadowing lines, and with **Tasword 2** I see the 64 columns in the background.

Marc Rossey, Kraainem, Belgium

● *Try using the Y signal rather than video as that can sometimes give a clearer picture on a monochrome monitor.*

No need to get heated

I HAVE a Spectrum Plus which is still under guarantee. Whenever I switch it on the number three appears on the TV screen. Could it be possible that the Spectrum should be left for a while to get heated up?

George Buchan, Peterhead

● *In all cases of something you buy not working properly, be it computer-based or not, take it back to where you bought it and get it fixed before the guarantee runs out.*

Identification is resisted

WITH REFERENCE to the Spectrum issue 3 could you please let me know the resistor value of R55?

I have to know the value of this resistor to complete a repair on my Spectrum. The original is so badly overheated as to make colour identification impossible, and in any case a meter measurement would perhaps not give the true value.

I wrote to Sinclair Research and was informed that due to copyright restriction they were not prepared to disclose such information!!

Some friends of mine have offered to open their models to find the value of the resistor but that will be a last resort as the membrane connection ribbon is rather fragile and liable to fracture quite easily if distorted. If you cannot help — no hard feelings, yours will still be my favourite computer mag!

H C Hemmons, Swansea

● *At the risk of annoying Sinclair Research — R55 is 56 ohm.*

Speaker poses a problem

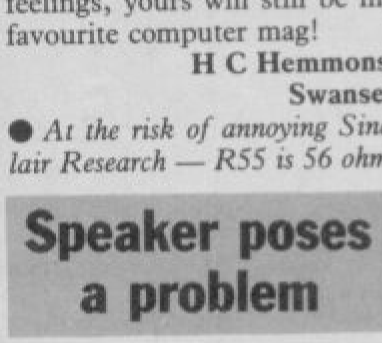
WHEN I bought my computer I also purchased a Protek joystick interface. I am thinking of purchasing a Currah Micro speech.

Is there any way of connecting the two together?

B F Taylor, Reading

● *You need a three-way connector. The Currah Micro Slot is suitable, or you can get a flexible one from CLPS, (Tel: 0325-313131) priced £12.50.*

Sharing a Spectrum



Mouse turns artist

WINDOWS, icons, mice and pointers — WIMPs for short — have always struck me as just so much of a gimmick. I take it all back. The AMX Mouse from Advanced Memory Systems for the Spectrum has changed my life.

Mice are fun, easy to use, and for some things the only way to fly.

AMS has had plenty of practice in building mice. It has produced mice for the BBC and Amstrad which have become the standard. The Spectrum version looks set to become a standard too.

The package is highly professional. You get the mouse, interface — which also has a parallel printer port — and some very good software. Full marks to AMS for including a save-to-microdrive option for the software. Why can't other people do the same?

Two of the four programs come under the **AMX Art** banner and are as good as anything yet produced for the Spectrum — including **Art Studio,** which is in the process of being converted for the mouse.

You also get an AMX Control Language, a set of Basic extensions to control windows, icons, the mouse and pointers — everything you need to write your own mouse-driven programs. Lastly, there is a demo program using those extensions.

Who needs a Macintosh, ST, or Amiga when you can use the Spectrum?

AMX Art must be the easiest drawing program to use. On the right of the screen are a series of icons; you move the mouse to position the pointer over the one you want, press a button and then move over to the drawing window.

That window does not cover the entire screen, or even the entire drawing area — which is four times the size of a normal screen. The window can be scrolled in all four directions, using the mouse, and so some pretty impressive pictures can be built up. If you get lost there is a Showpage option which compresses the four screens into one, to give you an impression of the overall picture.

Attribute problems do not occur as **AMX Art** only works in black and white. Once the picture is complete it can be exported to the **Colour Palette** program and the colours added.

All the usual drawing facilities are available — see figure one — for lines, boxes, circles, zoom etc, plus 40 types of shading; you can also design your own. Text can be added in any position and four styles are included in the program.

When you've finished, there are various options to save part or all of the picture to tape or microdrive, or print it to the ZX printer, RS232 port on Interface 1 or the built-in port.

Colour Palette is, by comparison, fairly simple. It allows you to fill in the colours, set Bright or Flash, and save the finished picture to tape or drive.

Those drawing programs on their own would make the mouse an excellent product, but what really brings it to life are the Basic extensions to use the mouse in your own programs.

The Control program adds 28 commands to Spectrum Basic — see figure two — including windows, pull-down menus and icons as well as a very useful On Error Goto, and commands to drive the printer port. It adds two new proportional typefaces, bold and condensed.

The best example of the power of those commands is shown in the Demo program. It has a pull-down calculator and sliding block puzzle — shades of the Macintosh — which are very well done.

It could easily be adapted to form the heart of a GEM-like system and is as easily accessible from code as from Basic.

With the Control program is an Icon designer program. Naturally that is icon-driven and so very easy to use. There is space to add 32 icons to the 64 already defined — although the original 64 could be redesigned if required. As with UDG designers there are facilities to mirror in both axes, rotate and reflect, and the icon can be scrolled in all directions.

The AMX Mouse is a complete, professional package that stands amongst the best on any computer. It is certainly not cheap at £79.95, but when you consider that it is half the price of an IBM mouse (for which you then have to buy software) it is remarkable value. *John Lambert*

Advanced Memory Systems Ltd, Green Lane, Appleton, Warrington WA4 5NG.



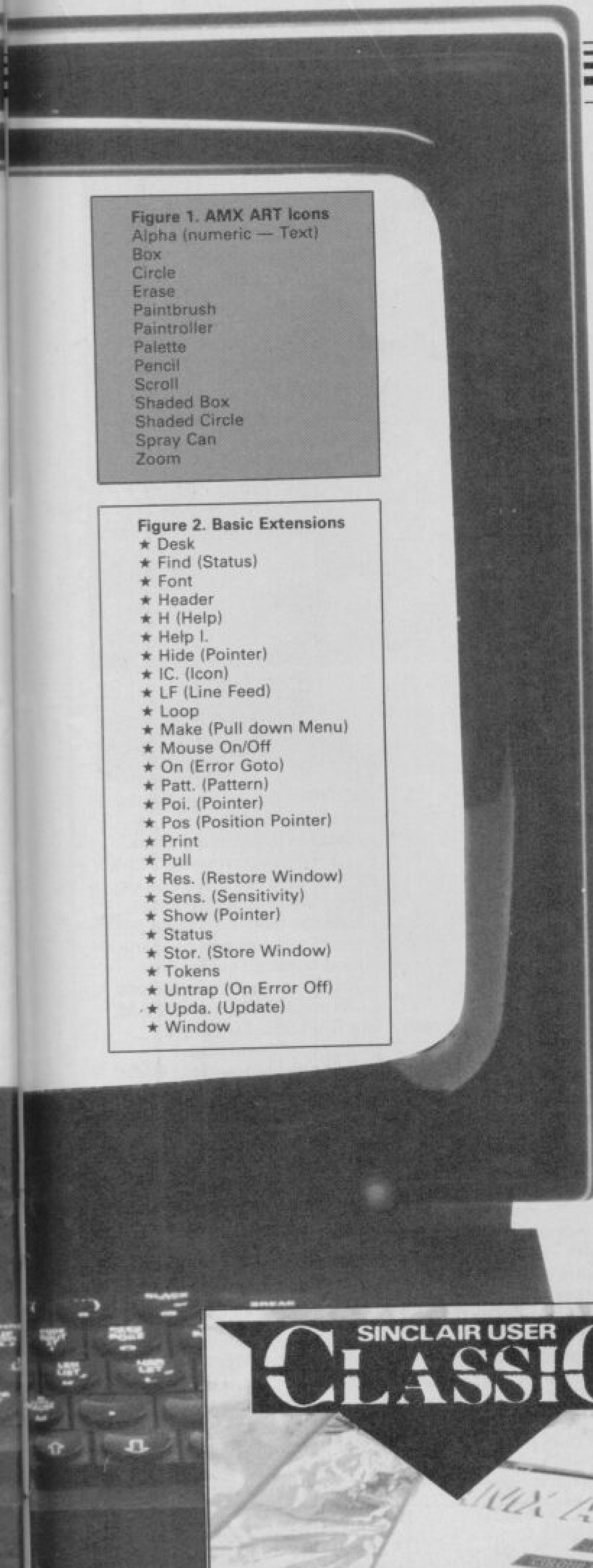


Figure 1. AMX ART Icons
Alpha (numeric — Text)
Box
Circle
Erase
Paintbrush
Paintroller
Palette
Pencil
Scroll
Shaded Box
Shaded Circle
Spray Can
Zoom

Figure 2. Basic Extensions
- ★ Desk
- ★ Find (Status)
- ★ Font
- ★ Header
- ★ H (Help)
- ★ Help I.
- ★ Hide (Pointer)
- ★ IC. (Icon)
- ★ LF (Line Feed)
- ★ Loop
- ★ Make (Pull down Menu)
- ★ Mouse On/Off
- ★ On (Error Goto)
- ★ Patt. (Pattern)
- ★ Poi. (Pointer)
- ★ Pos (Position Pointer)
- ★ Print
- ★ Pull
- ★ Res. (Restore Window)
- ★ Sens. (Sensitivity)
- ★ Show (Pointer)
- ★ Status
- ★ Stor. (Store Window)
- ★ Tokens
- ★ Untrap (On Error Off)
- ★ Upda. (Update)
- ★ Window

Back up your troubles



BACKUP DEVICES are at the best of times controversial and the new Multiface One from Romantic Robot is set to be the most controversial of all.

At the push of a button it allows you to backup your programs to disc (Discovery One or Beta), microdrive, or Wafadrive, with other disc systems to follow. It also provides facilities to POKE areas of memory for high score POKEs or to see what is there.

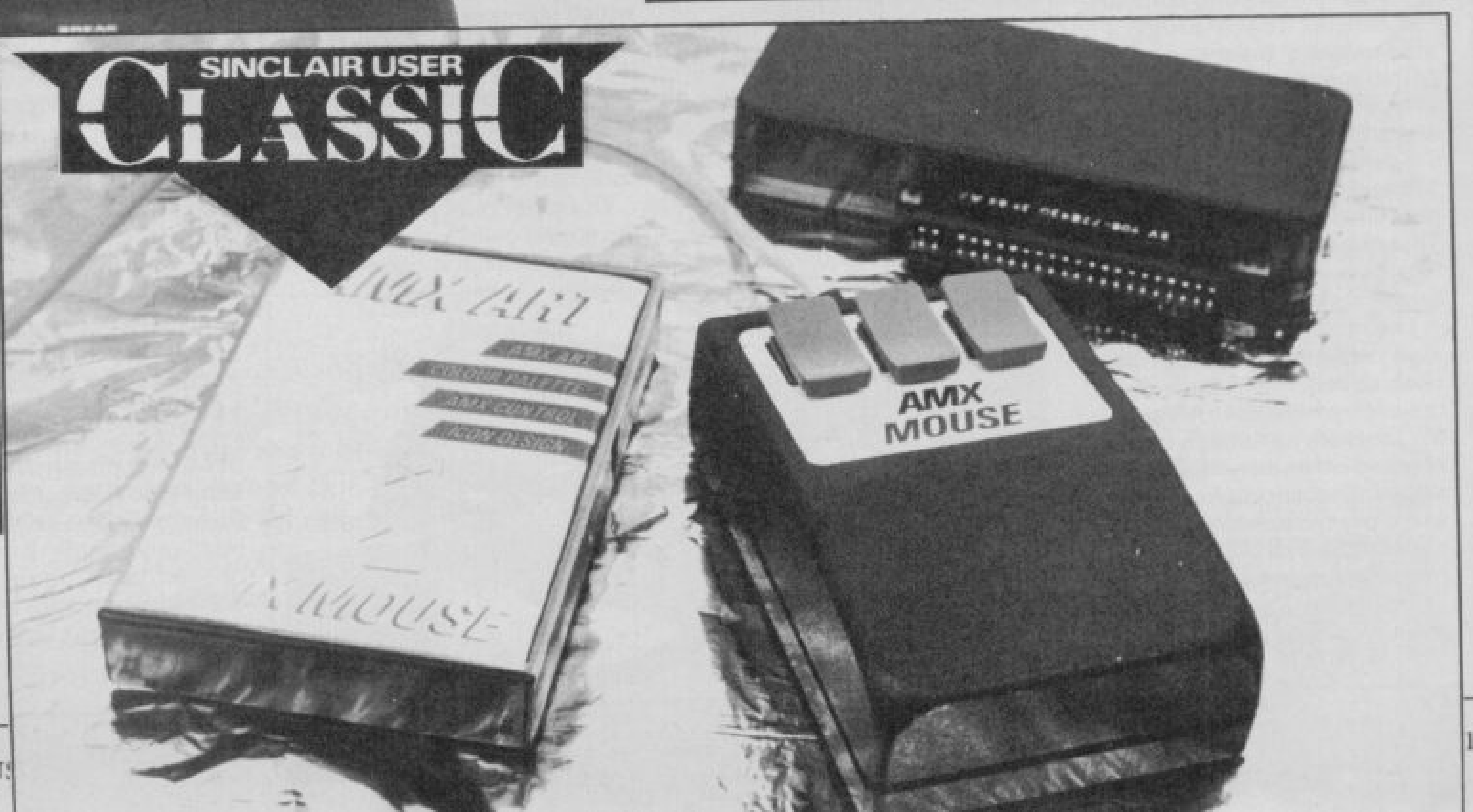
Multiface is so called because it can do more than just backup programs. It has a built-in Kempston compatible joystick port and a composite video monitor socket. Inside there is 8K of RAM which is available as, for example, a RAM disc or somewhere to keep a monitor or short machine code routines.

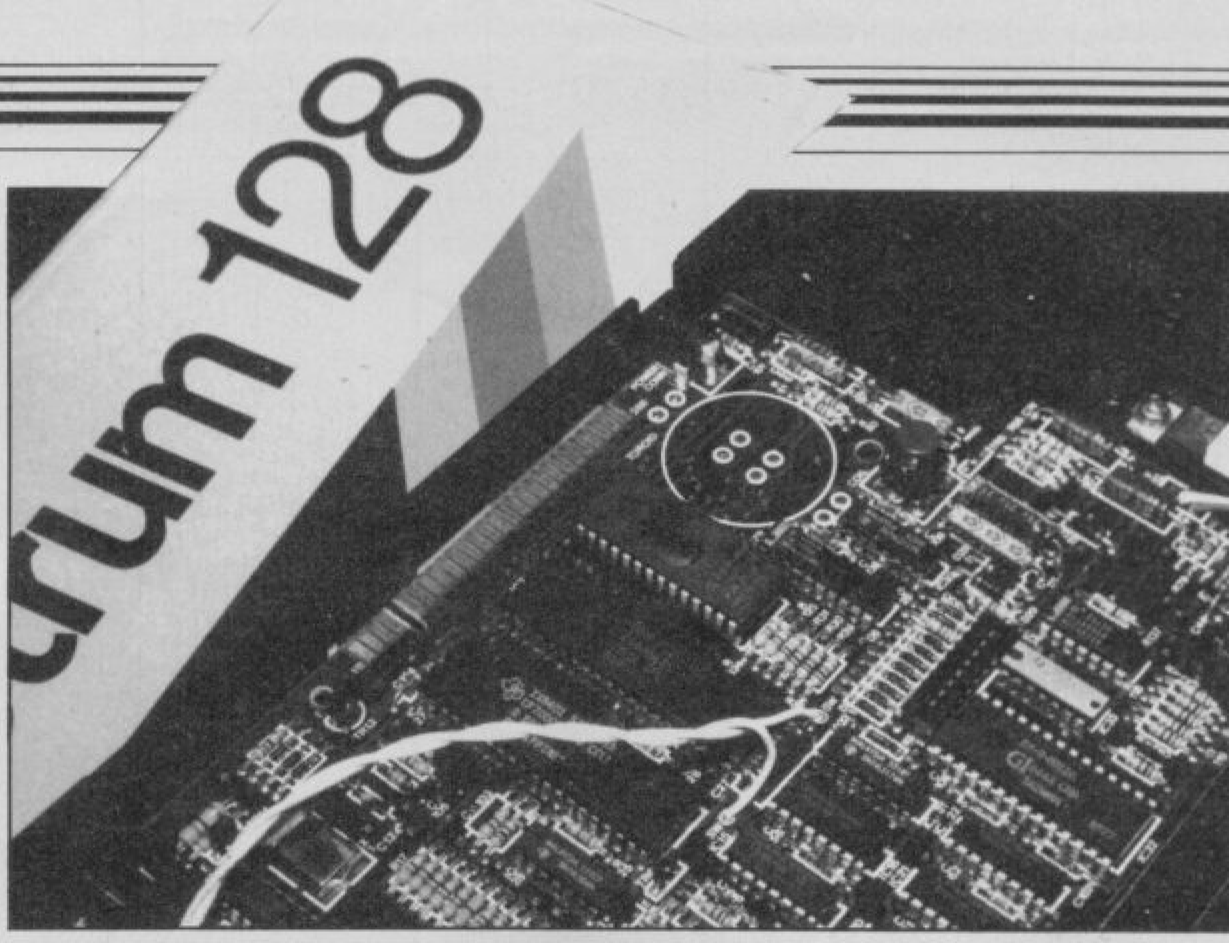
Its main use, however, will be as a backup device and as such it is very successful. It cannot backup programs to hardware where the program specifically looks for that hardware and does not run properly if it is connected — such as Elite and the Beta Plus — but it can, for example, backup the same program to microdrive.

To be able to get more programs onto one microdrive cartridge the Multiface uses some impressive compression techniques. Compression rates of over 50 per cent are possible with some programs.

Given the wide range of hardware which the Multiface can work with, and the extra facilities it provides, the price of £39.95 is reasonable.

John Lambert





Hands on the 128

THE SPECTRUM 128 is here.

Try as I might, I could not persuade the editor to cough up for a trip to Spain, and so I had to track one down to a very wet and windy part of Surrey.

The 128 I saw was still warm from Spain, complete with Spanish manuals.

The excitement of getting my hands on this elusive machine soon turned to disappointment. It is hardly a quantum leap for the Spectrum — more like a marketing exercise to get the maximum publicity for the minimum of outlay.

According to sources inside Sinclair Research most of the design work on the 128 was carried out at Cambridge. The reason for launching it in Spain hinged on three things.

The deal with Dixons which prevented, apparently, the launch of a Spectrum rival in the UK before the end of December '85; the readiness of the Spanish government to provide production facilities at minimal cost, to build up its electronics industry prior to its entry into the EEC; a law, due to be introduced in Spain at the end of November which would have effectively banned Sinclair from exporting Spectrums to Spain, its biggest market after the UK.

Choosing a 128K machine appears to be largely a matter of fashion. Amstrad, Commodore, Acorn, Enterprise and Sinclair have decreed that 128K will be the norm for 1986, and so that's what we get whether we want it or not.

Sinclair paved the way with the QL, but soon found that with no software, sales were well below expectation.

The solution, reached by all the manufacturers, was to take a standard machine and add a bit extra, while still being able to run all the existing software.

In Sinclair's case 'adding a little bit extra' meant another 64K of memory, a new sound chip, a superfluous cursor pad and a few extensions to Basic.

To outward appearances the 128 looks like a Plus with a large heat sink on the right-hand side. That might be because it *is* a Plus case with a large heat sink on the right-hand side.

The raised ZX Spectrum Plus logo is still there — '128K' has been added — and the hole at the back where the EAR and MIC sockets have been untidily blanked off and an RGB socket added. That socket has the same pin-outs as the QL, so, in theory, you can plug your QL monitor straight in.

The cassette sockets have been moved to the left-hand side along with a new RS232 socket. That is billed as a MIDI interface, but that appears to be more wishful thinking than the industry standard. Its main use will be as a printer port but, as with the QL, it is a phone type socket and so you will need a special lead . . .

At the front another phone socket accepts the separate numeric keypad. That is used for editing in 128 mode, a sort of poor man's mouse.

The TV socket is in the same place at the back of the computer and, unlike normal Spectrums, gives a rock-steady picture. That is due to more care being taken in arranging the circuitry around the modulator.

When the 128 is powered up it goes straight into 128 mode. In that mode all keywords must be typed in full using the screen editor.

The syntax of the lines is checked as they are entered, with the flashing figure of a bug used in place of the normal question mark for errors.

The screen editor can be used as a primitive word processor, but with 32 characters to the line, no formatting commands, block moves or search its uses are limited. The cursor pad provides extensive cursor control and, compared to the old Spectrum method of entering Basic, it is easy to use.

As with the whole machine, however, a little more effort could have made a lot of difference.

Apart from the few additions, 128 Basic is the same as Spectrum Basic. You can move to Spectrum mode, retaining the program in memory, by typing 'SPECTRUM'. Once in it you cannot return to 128 mode.

In Spectrum mode all existing 48K software should be compatible.

Apart from Interface One anything with ROM in it has problems, due to the way in which memory is paged in and out. The 128 has a 32K ROM — in early models an EPROM. The machine I looked at had an EPROM with 'Derby' scrawled across the top, Sinclair's early code name for it.

The other major difference is the sound chip — the evergreen AY-3-8912. That is controlled in 128 mode by the new command Play. A string is filled with a number of parameters, then played by the command 'PLAY a$'. The chip has three voices, white noise and eight preset envelopes built in so quite complex sounds can be made. Sound is output via the TV.

The other additions to Basic allow you to use to extra RAM as a RAM disc. Those are similar to the Interface 1 microdrive commands LOAD!, SAVE!, FORMAT!, CAT!.

Naturally, none of these extra facilities, including the RS232 port, are available when in SPECTRUM mode.

The lack of tangible additions to the Spectrum Plus is highlighted by the slimness of the new manual. You get the old Plus manual, and a new one giving full details of the 128 — 16 pages.

At the time of writing it was not known how the UK version of the 128 will compare with the Spanish model. It seems unlikely that there will be any major differences, to ensure software compatibility.

It is difficult to see what Sinclair is attempting with the 128. While compatibility is undoubtedly important, the 128 mode is a disappointment. At least there should have been a joystick port, a parallel port and possibly a disc interface. An enhanced Basic, such as Beta Basic, would have been relatively simple to implement or even, as Commodore has done, the option to run CP/M.

Too little too late?

John Lambert



Add a new dimension to the Spectrum



Only **£28.95** inc. VAT & P&P

is this the lowest price?

- **QWERTY key layout**
- **Professional, full size space bar**
- **Large enter key**
- **Simplicity itself to transform your Spectrum**

Turn your Spectrum into a professional machine with the Lo-Profile keyboard. Offered direct from the manufacturer, Pear Tree Computers, it must be the lowest priced professional keyboard available today. We are holding substantial stocks in readiness, but demand is sure to be heavy. Send your order today and we will despatch your Lo-Profile keyboard within 7 days.

How to Order

MAKE YOUR CHEQUE/P.O. PAYABLE TO PEAR TREE COMPUTERS LIMITED AND SENT IT TOGETHER WITH THE COUPON TO: **PEAR TREE COMPUTERS LTD,** FALCON HOUSE, HIGH STREET, HUNTINGDON CAMBS. PE18 6SS TELEPHONE (0480) 50595

Please send me your special ZX keyboard.
I enclose my cheque/P.O. for £28.95.
I would prefer to pay by Access
my number is ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Name ______________________

Address ______________________

____

SU 1/86

Would you be cut out for something a little more business like?

Saga 2+ — the cut-price sequel



FOLLOWING its huge success with the Saga 3 Elite keyboard for the Spectrum — a *Sinclair User* Classic — Saga has released a cut-down version, the Saga 2+, which retains most worthy features but sells for £20 less, £54.95.

Sporting 71 keys, 22 of them single functions — see figure one — the Saga 2+ caters for most tastes. Fifty-one of the keys are in the main block with additional shift keys and a full-sized space bar, the other 20 keys are to the right in a numeric pad with all the mathematical functions.

Surprisingly, the 1 to 0 keys are only to be found on the numeric pad, not above the QUERTY layout. That is a little confusing but with familiarity is not a problem.

All the key caps are printed, in dark grey, with none of the usual Sinclair keyword clutter on them. If you really want that, Saga supplies a set of three-colour stick-on legends with the keyboard which go on the keys. So you get the best of both worlds.

If you have problems remembering all the key positions but don't want the sticky labels, there is a three-colour card which sits above the keys with all the positions — similar to that supplied with the Saga 3. That card can be angled for better viewing and when in the up positions reveals a pen tray.

Compatability with add-ons should not be a problem as the base of the original Spectrum — 48K or Plus — is retained and bolted to the base of the keyboard. The top of the keyboard is a little higher than a Plus but angled slightly to give more room.

If I had not already seen the Saga 3 Elite, I would have awarded the 2+ a *Sinclair User* Classic. As it is, I'll simply say 'Well done, Saga'.

John Lambert

Saga Systems Ltd, 2 Eve Road, Woking, Surrey GU21 4JT. Tel: 04862-22977.

Figure 1. Single key functions
; : " . , = $ £ + − ★ (times) / (divide)
Edit Delete Caps Lock G Mode E Mode

E Mode functions
Ink Paper Verify Erase Cat



Watch this space . . .

UNTIL SINCLAIR brings out its portable computer, Seiko has filled the gap by letting you take part of your Spectrum with you. The Seiko RC-1000 is a wrist terminal, a digital alarm watch which you can plug into Interface 1 and use to download a database from the Spectrum. It costs a mere £99.95, and is available from various high street chain stores.

Other functions allow you to set alarms daily, weekly, or yearly, each with a line of text to remind you of what you set the alarm for in the first place, and you can tell the time anywhere in the world. It certainly beats a knotted hankerchief.

I have never owned a digital watch, although I still think they are a pretty neat idea. Having the day, month, year — and the time — constantly available beats working out what time it is when the big hand is on the five and the little hand is on the six.

Under the 12 × 2 character display are six buttons which you use to set the time and daily alarm, download information, or scan through the database. Only if the time is being shown can the display be illuminated.

The database consists of 80 pages, each of which is given a specific meaning when the watch is programmed. They can be a menu page, from which other pages are accessed, a weekly or yearly alarm page with one line of text, a World Time page where the country is shown on the top line and the current time on the bottom one, or just two lines of text. Each of those is configured using the tape-based software supplied.

Once the database is filled, downloading to the watch via the cable supplied is straightforward. Accessing the database is, however, a little awkward. Two arrow buttons are used to scan forwards and backwards through the menu pages, and then through the pages on that menu.

How useful you will find the watch is debatable; if you remember to reprogram it, you would probably remember its contents. If you are forgetful you might not remember to wear it. If nothing else, it is a great conversation piece and you can impress the hell out of your friends *(speak for yourself, Ed.)*

John Lambert

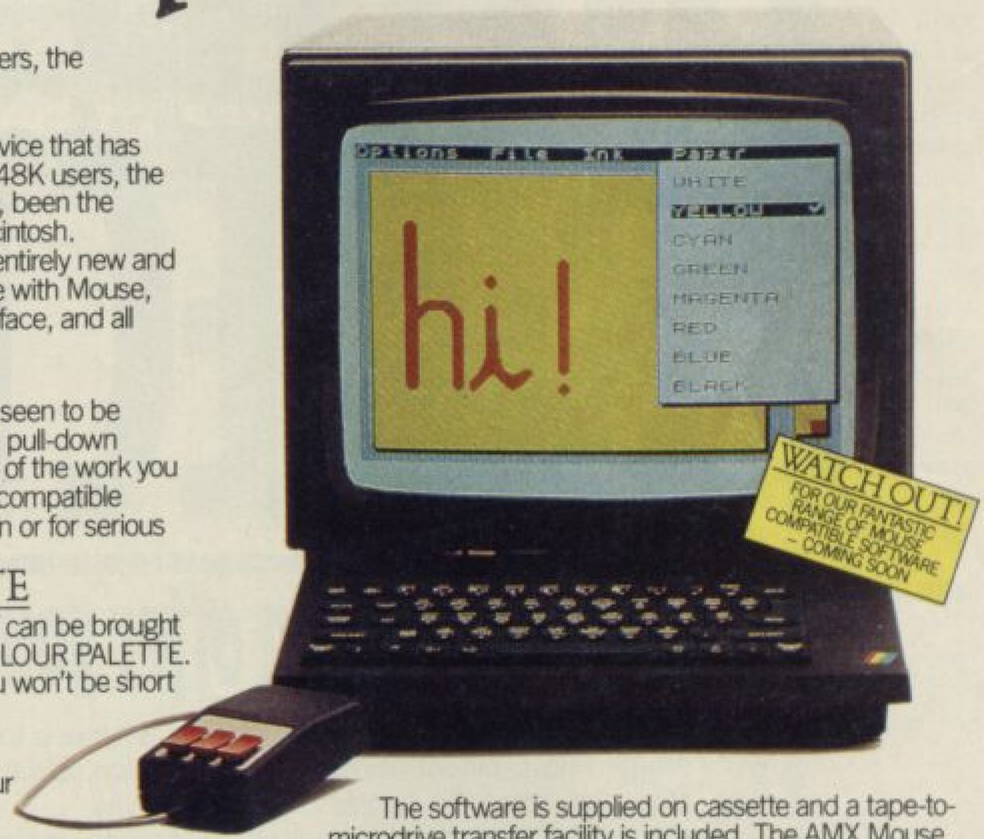
We thought it was about time we put you in the picture.

When we introduced our AMX Mouse to micro-users, the response was phenomenal.

And no wonder!

Hailed by the press as 'probably the best input device that has arrived recently', the AMX Mouse brings to Spectrum 48K users, the same sophisticated, positive control that has, until now, been the province of more expensive computers – like the Macintosh.

The fantastic AMX Mouse Package opens up an entirely new and exciting world to Spectrum users and comes complete with Mouse, interface, which also includes a Centronics printer interface, and all these fabulous programs.



AMX ART

This computer aided, drawing program has to be seen to be believed. Making full use of on-screen windows, icons, pull-down menus and pointers, you'll be astonished at the quality of the work you can produce, save and print using either ZX or Epson compatible printers. It's a program ideal for both hours of family fun or for serious professional applications.

AMX COLOUR PALETTE

The wonderful pictures you create with AMX ART can be brought vividly to life with rich vibrant colours – using AMX COLOUR PALETTE. And with 8 Foreground and 8 Background colours you won't be short of inspiration.

AMX CONTROL

Now you can create a 'Mouse environment' in your own programs, AMX Control adds 28 commands to normal Sinclair Basic and contains three programs.

1. The machine code program to extend the Basic interpreter, which gives you full use of windows, icons, pull down menus, pointers and also supports AMX printer interface.
2. An Icon designer, an individual program for creating and storing icons for use in your own programs. The number and variety of icons you can create is limited only by your needs and imagination.
3. A demonstration program containing on screen calculator and puzzle.

This fabulous AMX Mouse Package costs only £69.95, a price as remarkable as the package itself and it includes a fully illustrated operating manual.



FOR INSTANT ACCESS OR VISA ORDERS RING (0925) 602959/602690

The software is supplied on cassette and a tape-to-microdrive transfer facility is included. The AMX Mouse package is compatible with the Spectrum 48K and Spectrum +.

Ordering couldn't be easier.

This superb package is available from all good computer dealers or direct using the freepost order form below.

So what are you waiting for?

Get into the picture now!

PLEASE RUSH ME POST FREE________(Quantity)
AMX MOUSE SPECTRUM 48K PACKAGE/S
AT £69.95 EACH INCL. VAT AND P & P.

I ENCLOSE CHEQUE/POSTAL ORDER FOR £________

OR DEBIT MY ☐ ACCESS
(TICK AS APPROPRIATE) ☐ VISA

CARD NO. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

EXPIRY DATE________

SIGNATURE ________

NAME ________
(BLOCK CAPITALS PLEASE)

ADDRESS ________

POSTCODE ________

AMX MOUSE

IMAGINATION AT YOUR FINGERTIPS

SEND TO: ADVANCED MEMORY SYSTEMS LIMITED, FREEPOST, WARRINGTON WA4 1BR.

SU

SINCLAIR USER ENTERS THE PROTECTION

with a subscription offer you can't refuse

Nobody's gonna give your copies of Sinclair User a tough time. Not when you get a sturdy FREE binder with every subscription. Big enough to take 12 issues and strong enough to keep thieving hands away.

Every month Sinclair User is packed full of game reviews, letters, hints and tips, hardware reviews, competitions and everything else you want to know about Sinclair Computing. Simply fill in the form below, and we will deliver direct to your door 12 pristine copies of Sinclair User, and your FREE binder.

I enclose a cheque/postal order for

		Tick box
U.K.	£15	☐
European	£28	☐
(Surface) Rest of world	£35	☐
(Airmail) Rest of world	£60	☐

Please debit my Access/Visa Account

Amount £________ Number________

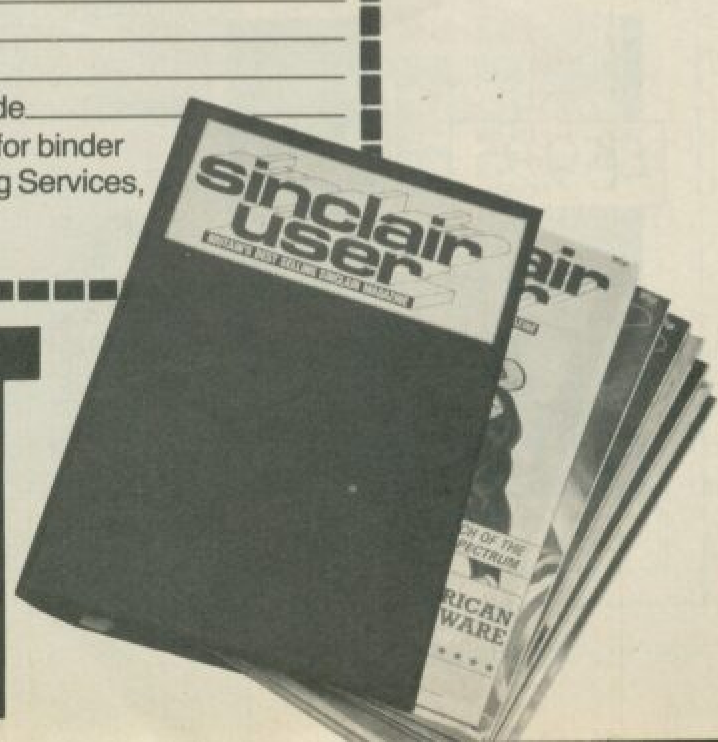
Expiry date________ Signed________

Name________

Address________

Post code________

Make cheques payable to Sinclair User. Allow 28 days for binder delivery. Return to: Carl Dunne, Sinclair User Subs, Mag Services, EMAP, 30-32 Farringdon Lane, London EC1R 3AU.



RACKET

3 0A 73 61 E5 47

CALLing all CODE

In his final article Marcus Jeffrey shows how machine code routines can be used to save time

IN THIS, the final instalment of the series, we're going to dig deep into the Spectrum innards, to see how we can make use of what Sinclair has already given us.

Until now, every machine code program we've written has done everything for itself. If we've wanted to put a character onto the screen, we've written a piece of code which loads the first byte into the initial location, then moves on to process the second byte, and so on.

However, have you ever stopped to wonder how the Spectrum normally places characters onto the screen? It can't do it directly from Basic, and so the Basic is interpreted, and a machine code routine does all the work. If we know where that machine code routine is, and how it works, there is no reason why we shouldn't CALL it from our own programs.

The Spectrum operating system, Basic interpreter and standard character set, occupies the lowest 16K of the Spectrum memory. That is all in ROM, as opposed to the subsequent 48K of memory which is addressable RAM. Any program which can be written in Basic can also be written in machine code, with CALLs to this ROM area to decrease the size of the user-written code. For instance, any printable character can be printed using the two statements:

```
LD    A,(ascii code)
RST   10H
```

That is one of the 'Restart' routines at the very beginning of the ROM area.

As an example of how useful these routines can be, have a look at this month's program, the assembly code of which is shown in figure one. Its function is to perform a Block Delete — in other words, it will allow you to delete a range of lines in a Basic program.

The first CALL (location 1C79 hex) is to a routine which will evaluate two expressions, separated by a comma, and place the resulting two numbers onto the calculator stack, with the last at the top. The routine expects to find those expressions immediately after the last executed command, entered either directly or from Basic. This location is referenced by the system variable CH ADD — locations 23645 and 23646. Using this routine gives us yet another way of passing values to machine code routines. We've already seen how to pass them by Poking into locations, then loading these into registers, and through the use of a function. We can now specify the range of lines to delete as part of the machine code call from Basic, in the form:

PRINT USR location, first line, last line

and the CALL will automatically place the values of 'first line' and 'last line' onto the calculator stack.

The next problem is to retrieve the values from the calculator stack. We've seen how easily that can be done before — *Sinclair User* October — by making a CALL to location 2DA2 hex, which places the top value into the BC register pair. A couple of points we didn't mention is that the routine will also set the Carry flag if the top value is greater than 65535 — the maximum value holdable in two bytes — and that it also places a copy of the low byte into the Accumulator. This is why the two conditions following the CALL work correctly.

Once we've got the line number from the stack, and checked it, we need to convert it into an address in memory. One way to do this, assuming we know how the Spectrum holds a Basic program, is to search through memory for the required sequence of bytes. Here again, however, by transferring the number from BC to the HL register pair, we can simply CALL location 196E hex, and the Spectrum operating system

112 ▶

Figure 1.

```
                            ORG   60000
                            LOAD  60000

EA60  CD791C    DELETE      CALL  1C79H        ;Evaluate next two
                                               expressions
EA63  CDA22D                CALL  2DA2H        ;Get 2nd number
                                               in BC
EA66  3803                  JR    C,ERR2       ;Jump to error if
                                               BC>65535
EA68  B0                    OR    B
EA69  2007                  JR    NZ,OKAY2     ;Jump on if 2nd
                                               number <> zero
EA6B  CDA22D    ERR2        CALL  2DA2H        ;Unstack 1st
                                               number
EA6E  010200                LD    BC,2         ;Indicate error in
                                               2nd number
EA71  C9                    RET                ;  and return
EA72  60        OKAY2       LD    H,B          ;HL=BC
EA73  69                    LD    L,C
EA74  23                    INC   HL           ;HL = Line after
                                               the line
EA75  CD6E19                CALL  196EH        ;  required
EA78  E5                    PUSH  HL           ;Stack this address
EA79  CDA22D                CALL  2DA2H        ;Get 1st number
                                               in BC
EA7C  3803                  JR    C,ERR1       ;Jump to error if
                                               BC>65535
EA7E  B0                    OR    B
EA7F  2005                  JR    NZ,OKAY1     ;Jump on if 1st
                                               number <> zero
EA81  C1        ERR1        POP   BC           ;Unstack address
EA82  010100                LD    BC,1         ;Indicate error in
                                               1st number
EA85  C9                    RET                ;  and return
EA86  60        OKAY1       LD    H,B          ;HL = BC
EA87  69                    LD    L,C
EA88  CD6E19                CALL  196EH        ;HL = Address of
                                               1st line
EA8B  54                    LD    D,H          ;DE = HL
EA8C  5D                    LD    E,L
EA8D  E1                    POP   HL           ;HL = Address of
                                               2nd line
EA8E  A7                    AND   A            ;Set Carry flag to
                                               zero
EA8F  E5                    PUSH  HL
EA90  ED52                  SBC   HL,DE        ;HL = HL - DE
EA92  E1                    POP   HL
EA93  D4E519                CALL  NC,19E5H     ;Reclaim memory,
                                               only if HL>DE
EA96  010000                LD    BC,0         ;Indicate success
EA99  C9                    RET

                            END
```

Figure 2.

```
  10 CLEAR 59999
  20 GO SUB 1000
  30 REM This program initially
  40 REM loads the machine code
  50 REM Block Delete routine.
  60 REM Then, just to prove it
  70 REM works, it deletes these
  80 REM REMark statements, and
  90 REM lists the program.
 100 PRINT USR 60000,30,90
 110 LIST
 120:
1000 REM HEX LOAD ROUTINE
1010 DEF FN p(x)=CODE h$(x)-48-7
*(CODE h$(x)>=65)
1020 LET byte=0
1030 RESTORE 2000
1040 READ start
1050 READ h$
1060 IF h$="*" THEN  GO TO 1160
1070 IF LEN h$<>2*INT (LEN h$/2)
 THEN  PRINT "Odd number of hex
digits in: ";h$: STOP
1080 FOR i=1 TO LEN h$
1090 IF NOT ((h$(i)>="0" AND h$(
i)<="9") OR (h$(i)>="A" AND h$(i
)<="F")) THEN  PRINT  "Illegal h
ex digit: ";h$(i): STOP
1100 NEXT i
1110 FOR i=1 TO LEN h$ STEP 2
1120 POKE start+byte,16*FN p(i)+
FN p(i+1)
1130 LET byte=byte+1
1140 NEXT i
1150 GO TO 1050
1160 PRINT "Code entered"
1170 PAUSE 150
1180 RETURN
2000 DATA 60000,"CD791C"
2010 DATA "CDA22D","3803","B0"
2020 DATA "2007","CDA22D"
2030 DATA "010200","C9","60"
2040 DATA "69","23","CD6E19"
2050 DATA "E5","CDA22D","3803"
2060 DATA "B0","2005","C1"
2070 DATA "010100","C9","60"
2080 DATA "69","CD6E19","54"
2090 DATA "5D","E1","A7","E5"
2100 DATA "ED52","E1","D4E519"
2110 DATA "010000","C9","*"
```

will do the work for us.

That line-to-address conversion routine will place the starting address of the line held in HL, or the first line after this, into the HL register pair, and places the start of the previous line into the DE register pair. The first time we CALL this routine in our program, we initially increment HL. That is just so that we can make use of the 'Reclaim' routine (19E5 hex), further on in the code. The routine will close up the program area, starting at the address in the DE register pair, and finishing with the address in the HL register pair as the first unchanged location. This routine will also carry out the messy work of amending all the necessary system variable pointers for us.

To see how the routine works, just type in the Basic loader program in figure two. This will load the code into memory, then delete the block of REM statements near the beginning of the program, before Listing itself.

This sort of utility program can prove very useful. For instance, if you want to use a Basic loader to enter machine code into a REM statement at the start of the program, as explained in January's article, then you'll need to delete all the lines following the initial REM, before rewriting the program. A utility such as this Block Delete will do that in a fraction of the normal time. You'll also notice that the routine is completely relocatable, so you can place it anywhere in memory.

There are a wide variety of Spectrum ROM routines which may prove useful. October's article showed how to use the 'RST 28H' instruction to make use of the ROM calculating routines, and figure three shows a few other generally useful CALLs. For anybody wanting to dig further into the Spectrum ROM, *The Complete Spectrum ROM Disassembly*, by Dr Ian Logan and Dr Frank O'Hara is recommended.

Figure 3. useful ROM routines

CLS (CALL OD6BH)
This will clear the whole display, resetting all the pixels, and placing the current value of the system variable ATTR P (location 23693) into the attribute bytes.

CLS-LOWER (CALL OD6EH)
This will clear just the lower part of the screen.

LINE-ADDR (CALL 196EH)
This routine expects a line number in the HL register pair. It will return with HL containing the start location of either the given line or the next line, if the first doesn't exist. The start of the previous line will be in DE. If, on return, the zero flag is set, then the given line exists.

RECLAIM-1 (CALL 19E5H)
This will 'reclaim' the area of memory starting at the location in DE, and continuing up to, but not including, the location in HL. System variable pointers will also be corrected.

RECLAIM-2 (CALL 19E8H)
This works in a similar way to RECLAIM-1, but on entry, HL should hold the first location, and BC should contain the number of bytes to be reclaimed.

NEXT-2NUM (CALL 1C79H)
This will advance the value in the system variable CH-ADD, to point to the next item. It then evaluates the next two items, which should be separated by a comma, placing the results onto the calculator stack.

EXPT-2NUM (CALL 1C7AH)
As for NEXT-2NUM, but this doesn't advance the value of CH-ADD before evaluation.

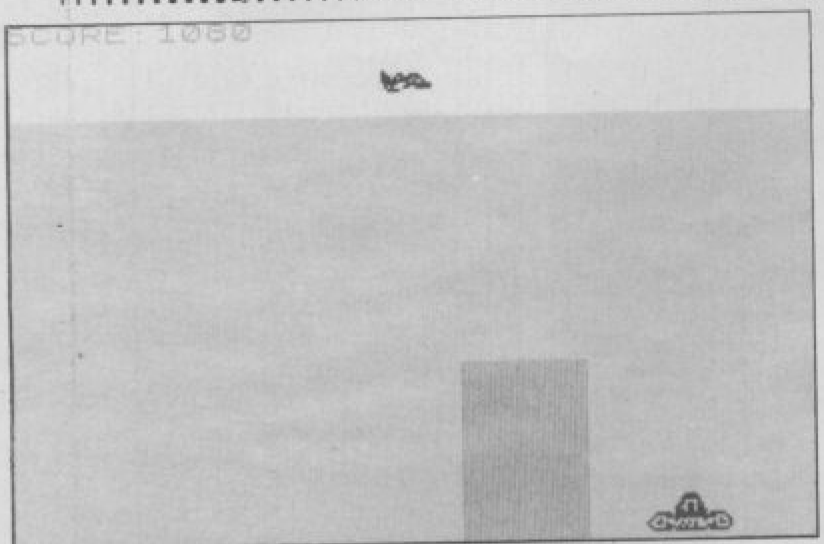
EXPT-1NUM (CALL 1C82H)
As for EXPT-2NUM, but only evaluates a single expression.

FREE-MEM (CALL 1F1AH)
Calculates the amount of memory currently in use, including ROM space, placing the result in both the BC and HL register pairs. Subtracting this from 65536 will estimate free memory.

ALPHA (CALL 2C8DH)
On return, the Carry flag will be set if the present value in the A register denotes the ASCII code of a valid alphabetic character.

PRINT-FP (CALL 2DE3H)
This will perform the horrendous task of printing a floating point number from the top of the calculator stack.

CYBOR



DEFEND THE planet Cybor against Alec the Malevolent and his army of droids in a fast moving game by Andrew Clark of Yorkey's Knob in Queensland, Australia. Dodge the citadels which rush towards you across the flat surface of the planet and try to shoot down as many droids as you can in the meantime.

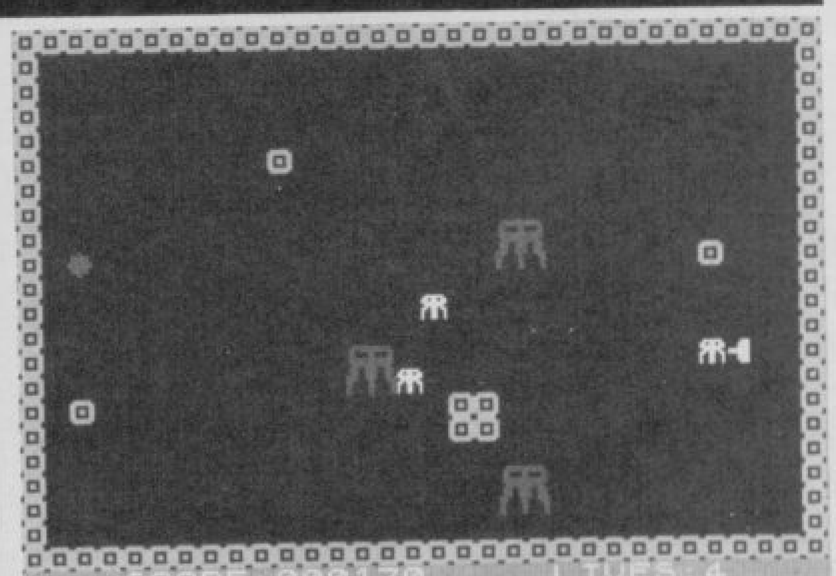
Cybor runs on any Spectrum, and includes a high score feature.

The game uses our special abbreviations for graphics characters, so please read the instructions below before typing in the listing.

TRIPODS

DEFEAT THE evil Tripods with your new' rocket launcher and save humanity in an excellent machine-code game by Anthony Magrath of Rugby in Warwickshire. Tripods **is for the 48K Spectrum or Spectrum Plus. Use either a Kempston joystick or keys 5 and 6 to rotate and 0 to fire. The code makes it a very fast game indeed, and you'll need swift reactions to get beyond the first two or three levels.**

The program uses our special instructions for graphics characters, so please read the instructions below before entering the listing.



GRAPHICS INSTRUCTIONS

IN GENERAL, graphics abbreviations are enclosed in brackets, which should not be entered. A string of the same graphics character is represented in the form (3*A) which would be entered as AAA, where A is the graphics character. A space, where it is important to have the correct number of spaces, is indicated by (sp). Spaces in text will not normally be indicated. Where several graphics characters are used, they are separated by commas, which should not be entered. With Spectrum and QL listings the letter I has a flat top and the numeral 1 has a sloping top.

The above applies to all Sinclair machines. The following instructions are for specific machines.

Spectrum: User-defined graphics are represented by underlined letters, without brackets. Type the appropriate letter while in graphics mode. The underline does not appear on the screen.

Inverse characters have the letter i before them, e.g. iZ, iA, iP. Block graphic characters are indicated by g followed by the number of the appropriate key: g4 would mean the block graphics on key 4, ig4 the inverse of that graphic.

Control codes are indicated by cc before the character, and are obtained by pressing CAPS SHIFT while in extended mode. They do not appear on the screen but may change the colour of the cursor and will affect what is printed after them: cc3,i* would thus have the effect of printing an inverse asterisk in red.

QL: User-defined graphics on the QL are indicated by a description of the keys pressed to obtain them, underlined and in brackets. Thus (CTRL + 9) means press CTRL and 9 together. The same applies for unusual characters within the QL character set, which our printer is unable to reproduce.

CYBOR

```
 1 REM ***CYBOR***
 2 REM *byA.Clark*
 3 POKE 23658,8: GO SUB 7000
```

Line 3. The POKE in line three changes the cursor to CAPS mode, so that all further letters typed will appear in capitals. The program then goes to the subroutine at line 7000 which sets up the user-defined graphics.

```
   4 PAPER 6: BORDER 5: INK 0: C
LS : PRINT AT 11,0;"DO YOU NEED
OPERATIONS BRIEFING?"
   5 IF INKEY$="" THEN  GO TO 5
   6 IF INKEY$="Y" THEN  GO SUB
6000
   9 LET hi=0: LET n$="..."
  10 LET y=14: LET men=3: LET sc
=0: LET ship=0: LET x=0
  20 LET block=15: LET stage=100
```

Lines 4 to 20. The instructions are held in subroutine 6000, and the program prints those if you want them. Important variables are set up and then subroutine 9000 is called, which draws the basic screen — sky and land.

```
0: LET block1=0: LET a$="(5*sp)"
  80 GO SUB 9000
  85 PRINT AT 0,17; PAPER 5;"KKK
"( TO men-1)
 100 PRINT AT 20,y; INK 0;"ABCD"
;AT 19,y+1;"EF"
 105 PRINT AT 0,0; PAPER 5; INK
1;"SCORE:";sc: IF sc=1000 THEN
GO SUB 8000
 106 IF sc=2000 THEN  GO SUB 801
0
 107 IF sc=3000 THEN  GO SUB 802
0
 108 IF sc=4000 THEN  GO SUB 803
0
 109 IF sc=5000 THEN  GO SUB 804
0
 110 IF sc>=6000 THEN  GO TO 805
0
```

Lines 85 to 110. The lives are drawn in at the top of the screen, along with the current score and your spacecraft at the bottom. Remember to input the underlined letters in graphics mode! If the score is of any size, the program goes to a series of congratulation routines at line 8000 onwards.

```
 112 IF INKEY$="" THEN  GO TO 16
0
 114 IF CODE INKEY$=13 THEN  GO
SUB 2000
 115 PRINT AT 20,y;"(4*sp)";AT 1
9,y+1;"(2*sp)"
 120 LET i$=INKEY$
 125 IF i$="Z" THEN  LET y=y-2:
IF y<3 THEN  LET y=3
 130 IF i$="X" THEN  LET y=y+2:
IF y>25 THEN  LET y=25
 150 PRINT AT 20,y;"ABCD";AT 19,
y+1;"EF"
```

Lines 112 to 150. If you press a key, the program checks to see if it's the ENTER key (with code 13). If it is, it sends you to the shoot routine at line 2000. Otherwise, blank spaces are printed over your ship, the co-ordinates of the ship changed, and the new ship printed according to which way you moved. The co-ordinate is held in variable **y**.

```
 160 IF NOT ship THEN  IF INT (R
ND*100)>94 THEN  LET ship=1
 170 IF ship THEN  LET x=x+1: PR
INT AT 2,x; PAPER 5;"(sp)GH": IF
 x=29 THEN  PRINT AT 2,x; PAPER
5;"(3*sp)": LET x=0: LET ship=0
```

Lines 160 to 170. Regardless of what you pressed, the program checks to see if it wants to put a droid on the screen. Variable **ship** is set to 0 if there's no ship and 1 if there is.

Line 160 is complicated. The expression **NOT ship** will be 1 if ship = 0 and 0 if ship = 1. **IF NOT ship** is the same as **IF NOT ship = 1**, so if there's a ship on the screen nothing new happens, but if there isn't the program uses the random number generator to see if one will appear this time.

At line 170 that has been decided, and **IF ship** works the same way. That is, if the variable **ship** is equal to 1, then it's co-ordinate, **x**, is increased and the ship is printed at a new position on the screen. The reason Andrew uses this shorthand version of the normal IF statement is because it works a little faster, thus speeding the game up.

```
 800 GO SUB stage
 805 IF stage=1040 AND (y=block-
5 OR y=block-4 OR y=block-3 OR y
=block-2 OR y=block-1 OR y=block
 OR y=block+1 OR y=block+2) THEN
  GO TO 4000
 810 LET stage=stage+10: IF stag
e=1050 THEN  LET stage=1000: LET
 block1=block-2: LET sc=sc+20: G
O SUB 910
 900 GO TO 100
 910 LET block=INT (RND*20)+5
 920 RETURN
1000 IF block1 THEN  PRINT AT 14
,block1;a$;AT 15,block1;a$;AT 16
,block1;a$;AT 17,block1;a$;AT 18
,block1;a$;AT 19,block1;a$;AT 20
,block1;a$;AT 21,block1;a$
1004 PRINT AT 3,block; INK 1; PA
PER 5;"(ig5)"
1005 RETURN
1010 PRINT AT 3,block; PAPER 5;"
(sp)"
1012 PRINT AT 4,block; INK 1;"(i
g8)";AT 5,block;"(ig8)"
1015 RETURN
1020 PRINT AT 4,block;"(sp)";AT
5,block;"(sp)"
1022 PRINT  INK 1;AT 6,block-1;"
(2*ig8)";AT 7,block-1;"(2*ig8)";
AT 8,block-1;"(2*ig8)"
1025 RETURN
1030 PRINT AT 6,block-1;"(2*sp)"
;AT 7,block-1;"(2*sp)";AT 8,bloc
k-1;"(2*sp)"
1032 PRINT  INK 1;AT 9,block-1;"
(3*ig8)";AT 10,block-1;"(3*ig8)"
;AT 11,block-1;"(3*ig8)";AT 12,b
lock-1;"(3*ig8)";AT 13,block-1;"
(3*ig8)"
1035 RETURN
1040 PRINT AT 9,block-1;"(3*sp)"
;AT 10,block-1;"(3*sp)";AT 11,bl
ock-1;"(3*sp)";AT 12,block-1;"(3
*sp)";AT 13,block-1;"(3*sp)"
```

Lines 800 to 1040. The variable **stage** contains a number from 1000 to 1040, and controls the way in which the citadels which come towards you are printed. Each separate subroutine prints a larger citadel on the screen — the variable **block** fixes it's position. Line 805 checks to see if any part of the block touches your spacecraft, and line 810 increases the value of **stage**.

```
1042 PRINT  INK 1;AT 14,block-2;
"(5*ig8)";AT 15,block-2;"(5*ig8)
";AT 16,block-2;"(5*ig8)";AT 17,
block-2;"(5*ig8)";AT 18,block-2;
"(5*ig8)";AT 19,block-2;"(5*ig8)
";AT 20,block-2;"(5*ig8)";AT 21,
block-2;"(5*ig8)"
1045 RETURN
2000 REM Fire
2004 BEEP .01,0: BEEP .01,0: BEE
P .01,0
2005 INK 2: PLOT y*8+4,16: DRAW
12,138
2010 PLOT (y+4)*8-4,16: DRAW -12
,138
2015 BEEP .01,0: BEEP .01,0: BEE
P .01,0: BEEP .01,0
2020 OVER 1: PLOT y*8+4,16: DRAW
 12,138: PLOT (y+4)*8-4,16: DRAW
 -12,138: OVER 0
2025 BEEP .01,0: INK 0
2030 PRINT AT 2,y+1; PAPER 5;"(2
*sp)";AT 3,y+1;"(2*sp)"
2035 IF ship THEN  IF y+1=x OR y
+1=x+1 THEN  GO SUB 3000
2999 RETURN
```

Lines 2000 to 2999. This is really just a combination of BEEPs and lines on the screen to simulate the laser. At 2035 the program checks to see if an enemy ship is on screen and if you have hit it.

```
3000 REM Destroy plane
3010 PAPER 2: BRIGHT 1: OVER 1:
PRINT AT 0,0,,,,,,,,
3015 PAPER 6: PRINT AT 0,0,,,,,,
,,
3020 BRIGHT 0: OVER 0: PAPER 4
3025 PRINT AT 0,0; PAPER 5,,,,,,
,,
3030 LET sc=sc+100: LET x=0: LET
 ship=0
3040 PRINT AT 0,17; PAPER 5;"KKK
"( TO men-1)
3099 RETURN
```

Lines 3000 to 3099. The enemy plane is destroyed. All those commas have the effect of overprinting the three lines containing the plane.

By using different BRIGHT and PAPER values in succession, a flashing effect is achieved. This sort of thing can only be done by experimentation.

```
4000 REM DEATH
4005 PRINT AT 20,y; PAPER 4;"(4*
sp)";AT 19,y+1;"(2*sp)"
4010 FOR f=19 TO 10 STEP -1: PRI
NT AT f,y; PAPER 4; INK 2;"ABCD"
;AT f-1,y+1;"EF": BEEP .004,30:
PRINT AT f,y; PAPER 4;"(4*sp)":
NEXT f
4020 FOR f=10 TO 5 STEP -1: PRIN
T AT f,y; PAPER 4;"JIIJ";AT f-1,
y+1;"IJ": BEEP .1,40: PRINT AT f
,y; PAPER 4;"(4*sp)": NEXT f
4023 FOR f=4 TO 2 STEP -1: PRINT
 AT f,y+1; PAPER 8;"IJ": PRINT A
T f+1,y+1; PAPER 8;"(2*sp)": BEE
P .1,40: NEXT f
4025 FOR f=40 TO 20 STEP -1: BEE
P .1,f: NEXT f
4030 BORDER 1: FOR f=4 TO 21: PR
```

Lines 4000 to 4030. More graphical pyrotechnics as your ship is destroyed.

```
INT AT f,0; PAPER 4;"(32*sp)": N
EXT f
4040 LET men=men-1: FOR f=25 TO
40: BEEP .02,f: NEXT f: IF men=0
 THEN  GO TO 4100
4050 GO TO 20
4100 PRINT AT 11,10; PAPER 4; IN
K 0;"-GAME OVER-"
4120 IF sc>hi THEN  LET hi=sc: P
RINT  PAPER 4; INK 7;AT 13,0;"Yo
u have achieved the high score":
 INPUT "Enter your initials:"; L
INE n$: IF LEN n$>1 THEN  LET n$
=n$( TO 3)
4125 PRINT AT 15,0; PAPER 4; INK
 0;"(4*sp)SCORE(8*sp)HI(7*sp)BY(
4*sp)";AT 16,4;sc;AT 16,17;hi;AT
 16,25;n$
4130 PRINT AT 19,0; PAPER 3; INK
 7;"(4*sp)Another game ? (Yes/No
)(5*sp)"
4135 PAUSE 0
4140 IF INKEY$="" THEN  GO TO 41
40
4145 IF INKEY$="Y" THEN  PRINT A
T 21,8;"PRESS ANY KEY": PAUSE 0:
 PAUSE 0: GO TO 10
4150 IF INKEY$="N" THEN  RANDOMI
ZE USR 0
4155 GO TO 4140
4199 STOP
```

Lines 4040 to 4199. One life is deducted, and if you have lost the lot then you go to the score feature. If your score is the hi-score, you are asked to enter your initials. At 4130 to 4155 you are asked if you want another game. RANDOMIZE USR 0 is called a soft reset and has the effect of zapping out the entire program from memory, plus all user-defined graphics.

```
6000 REM Instructions
6010 PAPER 2: INK 7: BORDER 3: C
LS : GO SUB 6020: GO TO 6025
6020 PRINT AT 3,0; PAPER 3;"(7*s
p,3*ig8,sp,ig8,sp,ig8,sp,3*ig8,s
p,3*ig8,sp,3*ig8,13*sp,ig8,3*sp,
ig8,sp,ig8,sp,ig8,sp,ig8,sp,ig8,
sp,ig8,sp,ig8,sp,ig8,13*sp,ig8,4
*sp,2*ig8,sp,2*ig8,2*sp,ig8,sp,i
g8,sp,2*ig8,14*sp,ig8,5*sp,ig8,s
p,ig8,sp,ig8,sp,ig8,sp,ig8,sp,ig
8,sp,ig8,13*sp,3*ig8,sp,3*ig8,sp
,3*ig8,sp,3*ig8,sp,ig8,sp,ig8,6*
sp)"
6023 RETURN
6025 PRINT AT 9,0;"(2*sp)You are
 the last remaining(4*sp)weapons
 robot on the planet(5*sp)CYBOR,
 a totally flat world fullof tow
ering citadels that has(3*sp)fal
len prey to the evil grasp ofTHE
LEC THE MALEVOLANT and his(3*sp)
army of ruthless combat droids.(
sp)"
6030 PRINT "(2*sp)You must speed
 between the(4*sp)citadels and b
last the overhead droids with yo
ur powerful laser torpedoes."
6035 PRINT AT 21,9; FLASH 1;"PRE
SS ANY KEY": PAUSE 0: CLS
6040 GO SUB 6020: PRINT AT 9,0;"
(2*sp)The border will change col
our as you progress to indicate
how far you have penetrated into
 theenemies defence.(16*sp)You h
ave 3 men with which to(4*sp)sav
e your planet."
6050 PRINT AT 16,10;"CONTROLS";A
T 17,0;"[Z].........LEFT(16*sp)[
X].........RIGHT(15*sp)[ENTER]..
...FIRE"
6060 PRINT AT 21,1;"PRESS ANY KE
Y TO SAVE CYBOR !": PAUSE 0: RET
URN
6070 STOP
```

Lines 6000 to 6070. This section prints out the instructions on the screen.

```
7000 REM Graphics
7010 FOR f=USR "a" TO USR "k"+7:
 READ a: POKE f,a: NEXT f
7020 DATA 0,0,7,8,18,38,16,15,25
,29,223,255,16,133,234,223,176,1
84,251,255,8,65,71,251,0,0,224,1
6,72,104,8,240
7030 DATA 0,0,0,0,3,7,4,13,0,0,0
,0,192,224,32,176,0,128,198,235,
255,120,81,60,0,0,112,216,164,25
5,159,0
7040 DATA 48,74,85,143,192,141,8
7,122,12,82,170,241,3,177,234,94
,24,60,102,126,60,60,255,195
7999 RETURN
```

Lines 7000 to 7999. This routine loads in the data for the user-defined graphics of spaceships, enemy planes and so on.

```
8000 BORDER 2: INPUT "": BEEP .6
,1: RETURN
8010 BORDER 3: INPUT "": BEEP .6
,3: RETURN
```

Lines 8000 to 8100. This plays a congratulatory tune and gives you a message if you complete the game.

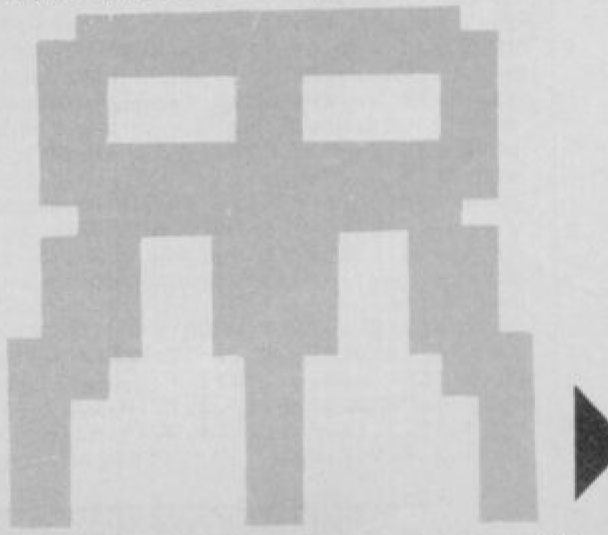
```
8020 BORDER 6: INPUT "": BEEP .6
,5: RETURN
8030 BORDER 7: INPUT "": BEEP .6
,7: RETURN
8040 BORDER 0: INPUT "": BEEP .9
,10: RETURN
8050 FOR f=0 TO 7: FOR n=0 TO 7:
 BEEP .1,f: BORDER n: INPUT "":
NEXT n: NEXT f
8060 PRINT AT 3,0; PAPER 5; INK
0;"(8*sp)CONGRATULATIONS(9*sp)"
8070 PRINT AT 4,0; PAPER 4; INK
7;"(8*sp)CONGRATULATIONS(9*sp)"
8080 PRINT AT 7,0; PAPER 3; INK
7;"(2*sp)Thanks to you, brave wa
rrior, the planet CYBOR is safe
for thetime being. Thelec has re
treatedto the dark world of Zorg
on to(2*sp)gather his power, so
be sure(4*sp)that he will be bac
k in even(4*sp)greater force in
the future. Theplanet CYBOR cele
brates and(5*sp)proclaims you a
hero.(16*sp)Well Done!(16*sp)"
8090 LET sc=sc+1000
8100 PRINT AT 21,0; FLASH 1;"(8*
sp)PRESS ANY KEY(11*sp)": PAUSE
0: PAUSE 0: CLS : GO TO 4120
8999 STOP
9000 PAPER 4: INK 0: BORDER 1: C
LS : FOR f=0 TO 3: PRINT AT f,0;
 PAPER 5,,: NEXT f
9020 RETURN
9999 SAVE "CYBOR" LINE 1
```

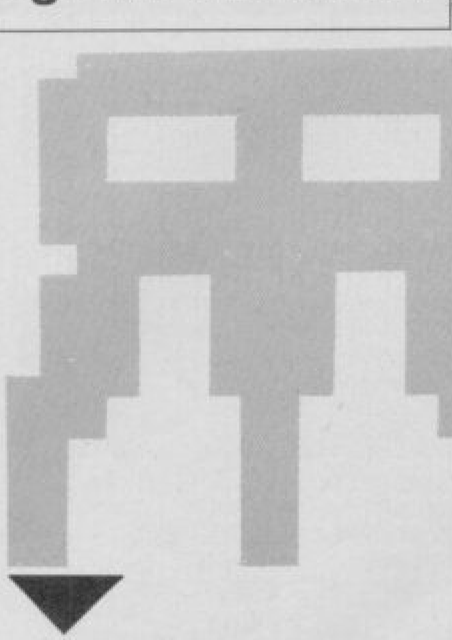
Lines 9000 to 9020. Sets the background screen up. Line 9999 saves the game if you want to auto-run.

THE END

TRIPODS

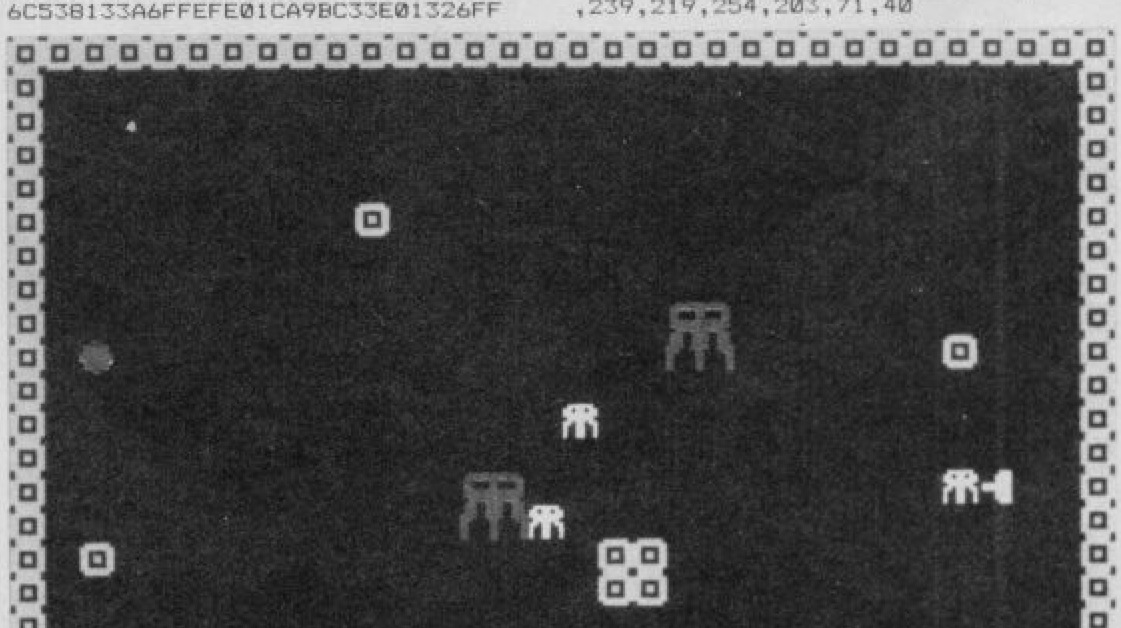
```
   2 IF NOT PEEK 40000 THEN  GO
TO 5090
   3 LET h=0: LET j=0: LET k=1:
LET r=9001
  10 LET t=1: BRIGHT 1: BORDER 6
: PAPER 1: INK 7: CLS
  20 PRINT AT 2,10;"THE TRIPODS"
; INK 4;TAB 10;"(11*g3)"; BRIGHT
 0;AT 5,5; INK 6; INVERSE 1;" BY
 ANTHONY MAGRATH "
  30 PRINT AT 8,9; FLASH j;"1.KE
MPSTON"
  40 PRINT AT 10,9; FLASH k;"2.C
URSOR KEYS"
  50 PRINT AT 12,9;"3.START GAME
"
  55 IF t THEN  GO SUB 4000
  60 IF INKEY$="1" THEN  LET j=1
: LET k=0: LET r=9000
  70 IF INKEY$="2" THEN  LET k=1
: LET j=0: LET r=9001
  80 IF INKEY$<>"3" THEN  GO TO
30
 110 RESTORE r: FOR f=50633 TO 5
0670: READ a: POKE f,a: NEXT f
```





TRIPODS

```
1020 LET sc=1: LET li=5: BORDER
1: CLS
1021 FOR f=65112 TO 65117: POKE
f,129: NEXT f
1025 LET l=USR 40200: FOR f=6440
8 TO 64438: POKE f,145: NEXT f:
FOR f=65080 TO 65111: POKE f,145
: NEXT f: FOR f=64439 TO 65079 S
TEP 32: POKE f,145: POKE f+1,145
: NEXT f
1027 PAPER 0: BORDER 0: CLS : PR
INT AT 10,3;"PREPARE FOR ATTACK
STAGE ";sc
1030 FOR f=0 TO RND*7: GO SUB 20
00: POKE a,145: POKE a+1,145: PO
KE a+32,145: POKE a+33,145: NEXT
 f: FOR f=0 TO RND*6: GO SUB 200
0: POKE a,145: NEXT f
1032 FOR f=1 TO sc+RND*2: GO SUB
 2000: POKE a,154: POKE a+1,163:
 POKE a+32,172: POKE a+33,181: N
EXT f
1033 FOR f=0 TO 2: GO SUB 2000:
POKE a,64: NEXT f
1034 FOR f=0 TO RND*sc: GO SUB 2
000: POKE a,199: NEXT f
1035 BORDER 1: PAPER 1: CLS
1040 POKE 65076,73
1053 RANDOMIZE : POKE 23659,1: P
RINT AT 22,0; PAPER 1; INK 7;"(4
*sp)SCORE:000000(5*sp)LIVES:";li
: POKE 23659,2
1070 BEEP .1,USR 50007
1080 IF PEEK 49996 THEN  FOR f=4
0 TO 0 STEP -8: BEEP .1,f: NEXT
f: LET li=li-1: GO TO 1090
1081 FOR f=0 TO 40 STEP 8: BEEP
.1,f: NEXT f: LET sc=sc+1: FOR f
=65116 TO 65112 STEP -1: POKE f,
(PEEK f)+8: IF PEEK f=209 THEN
POKE f,129: NEXT f
1082 GO TO 1025
1090 IF NOT li THEN  GO TO 2020
1091 FOR f=0 TO 200: NEXT f: GO
TO 1040
2000 LET a=64408+INT (RND*28)+1+
32*INT (RND*19)+1: IF PEEK a<>19
0 OR PEEK (a+1)<>190 OR PEEK (a+
32)<>190 OR PEEK (a+33)<>190 THE
N  GO TO 2000
2010 RETURN
2020 LET a$="": FOR f=65112 TO 6
5117: LET a=(PEEK f)-129: LET a$
=a$+STR$ (a/8): NEXT f: LET a$=a
$+"0": LET s=VAL a$
2030 FOR f=0 TO 200: NEXT f: IF
s>h THEN  LET h=s
2040 BORDER 6: CLS : PRINT AT 7,
8;"G A M E  O V E R";TAB 8; INK
4;"(16*g3)";AT 11,9; INK 7;"You
scored ";s;AT 14,9;"High score="
;h
2050 RESTORE 2060: FOR f=0 TO 28
: READ a: BEEP .03,a-12: BEEP .0
8,a: BEEP .05,a: NEXT f
2060 DATA 5,12,4,12,2,12,0,12,5,
12,4,12,2,12,0,9,7,14,5,14,4,14,
2,14,5,0,9,0,5
2070 GO TO 10
4000 DIM z(18): RESTORE 4030: FO
R f=1 TO 6: READ a: LET z(f)=a:
LET z(f+6)=a: LET z(f+12)=a: NEX
T f
4010 LET t=0: RESTORE 4100: FOR
f=0 TO 35: READ a,b: FOR g=1 TO
a: BEEP .03,b-z(g): IF INKEY$<>"
" THEN  RETURN
4020 NEXT g: NEXT f: RETURN
4030 DATA 12,0,24,0,24,0,12
4100 DATA 6,0,9,1,9,8,6,13,18,12
,6,12,3,10,6,12,3,13,6,15,6,17,1
8,12
4120 DATA 6,7,9,8,9,12,6,20,18,1
9,6,17,3,19,6,17,3,15,6,13,6,15,
18,12
4130 DATA 6,7,9,8,9,12,6,20,18,1
9,6,17,6,19,6,20,3,22,6,24,3,27,
18,29
5000 DATA "7EDBFF7EDB99999947001
B18187EFFFFFF46070F0F7F7F0F0F074
6FFFFFF7E18181800046E0F0F0FEFEF0F
0E046000018181818000004500000003C3
C00000045000001818181800004500000
03C3C000000457EFFC3DBDBC3FF7E443
F7F61617F7F3F7342FCFEB686FEFEFCC
E427373F3E1C1C1C1C142CECECF87838
38383420000000000000000000187E7EF
FFF7E7E18422198FB36BE237DFE5720F
87CFEFECB18F2F32100002268FE2267F
E22"
5010 DATA "4CC33E68324FC32198FB1
6001E00E57EFEBE282DFEC7CA8BC6FEB
5CA67C6FE40CA5AC4FE49CAB6C5FE52C
AADC5FE6DCA3AC6FE76CA42C618083A4
FC3FE78CA30C4E11C237BFE2020C5147
AFE1620BD2158FE11CA500E0523D5E56
E263D0606147E122310FAE1D1130D20E
C3E78324FC32157FE16161E204EC5D5E
54305152100405A193EF8A467CB0DCB0
DCB0D3EE0A5B06F069C16080A772403"
5020 DATA "1520F90AE1E51197A337E
D5277E1D1C1E57EFEBE281EFEC7CA9BC
6FE40CAB7C4FE5BCAA4C5FE64CA9BC5F
E7FCA3EC6FE88CA36C6E12B1D20A4152
09F3A69FEFE0028163A4CC3FE00280F2
A67FE1105007CFE00C4B503C358C3010
000FBC93E01324CC33E00326FFE3EB0C
D26C538133A6FFEFE01CA9BC33E01326
FFE3A52C393382D3A53C39230E73E423
254C33E6D3255C33E0ACD26C538603E"
5030 DATA "043268FECD07C57ECD3CC
5C29BC33A55C377C39BC33E003254C33
E763255C318D73E00FD226FFE3E80CD2
6C538133A6FFEFE01CA9BC33E01326FF
4C33E7F3255C318A53E013254C33E883
255C31899CD07C57EFEBEC29BC33640E
136BEE5C39BC33A54C3FE00280FFE012
80DFE21280B011F0037ED42C92BC923C
901200009C9E5D52A765CED5B775C19"
5040 DATA "ED5B785C1922765C95D1E
1C9FE40280DFE6D3807FE913803FEBEC
936BEFE00C93A6AFECB4FC2E8C5CBCF3
26AFE7EC60977FE6DC29BC33649C39BC
33A6AFECB472076CBC7326AFE7ED6097
7FE40C29BC33664C39BC3D53A4FC3FE7
8CC98C57A3253C37B3252C3D1C91D15C
93EB8324EC33E0118193E7F324EC33E2
118103E76324EC33E0018073E6D324EC
33E423254C3CD85C53E013269FE3E00"
5050 DATA "DB01CB4F20803A6AFECB8
F326AFE3E00DB01CB47208B3A6AFECB8
7326AFE3E00DB01CB67201C3A6AFECBA
7326AFE46C5CD07C5C17EFEBEC29BC37
0E136BEE5C39BC33A6AFECB67C29BC3C
BE7326AFE3E023268FECD07C57ECD3CC
520073A4EC377C39BC3FE40CCF9C6C39
BC33E01180A3E4218063E2118023E003
254C3460E02C5CD07C5C17ECD3CC5200
B0D20F270E136BEE5C39BC3FE40CCF9"
5060 DATA "C618F23E01324CC33E06C
D26C5DA9BC336402B364001200ED423
6BE2336BE2168FE3601C39BC33A6BFEF
EFFCA9BC34F060037ED42180C3A6CFEF
EFFCA9BC34F0600097ECD3CC5200936C
E3A52C39330123A53C39238E73E21325
7E136BEE5C39BC33EFF326BFE326CFE3
EB0CD26C5380ACDDBC63D326BFEC39BC
3CDD8C6326CFEC39BC33E41CD26C5381
43E41CD26C5380A3E41CD26C538093E2
1C93E20C93E1FC93E01C93A4EC3773E"
5070 DATA "033268FEE5215DFE7EC60
8FED1200536812B18F477E1C9"
5090 CLEAR 39999: PRINT AT 10,9;
 FLASH 1;" PLEASE WAIT "
6000 LET a=10: LET b=11: LET c=1
2: LET d=13: LET e=14: LET f=15
6010 RESTORE 5000: LET a$="": FO
R g=0 TO 7: READ b$: LET a$=a$+b
$: NEXT g
6020 FOR h=40000 TO 50964: LET i
=16*VAL a$(1)+VAL a$(2): IF h=40
144 THEN  LET h=40200
6030 IF h=40217 THEN  LET h=5000
7
6040 POKE h,i: LET a$=a$(3 TO ):
 NEXT h: GO TO 3
9000 DATA 0,219,31,203,79,32,128
,58,106,254,203,143,50,106,254,6
2,0,219,31,203,71,32,139,58,106,
254,203,135,50,106,254,62,0,219,
31,203,103,32
9001 DATA 247,219,254,203,103,40
,128,58,106,254,203,143,50,106,2
54,62,239,219,254,203,87,40,139,
58,106,254,203,135,50,106,254,62
,239,219,254,203,71,40
```



EACH GAME has been awarded a star rating, the basis of which is value for money. Programming, graphics, speed, presentation and addictive qualities are taken into account.

Guide to ratings:
★★★★★24 carat. Buy it
★★★★Value for money
★★★Nothing special
★★Over-priced
★A rip-off

SPECTRUM 48K

Adventure

Abyss	CCS	3★
Adventureland/Secret Mission	Adventure Internat.	4★
Ancient Quests	Mirrorsoft	4★
Ashkeron	Mirrorsoft	3★
Assignment East Berlin	Sterling Software	2★
Atlas Assignment	Virgin	4★
Black Crystal	Mastervision	4★
Bored of the Rings	Silversoft	5★
Caesar's Travels	Mirrorsoft	2★
Classic Adventure	Melbourne House	4★
Colossal Caves	CP Software	4★
Confidential	Radar Games	4★
Crystal Quest	Pocket Money	5★
Curse of the Seven Faces	Imperial Software	3★
D. Mouse in Black Forest	Creative Sparks	4★
Dead at the Controls	Artic	2★
Detective	Arcade	4★
Diamond Quest	CCS	2★
Diamond Trail	Gilsoft	4★
Doomdark's Revenge	Beyond	5★
Dun Darach	Gargoyle	5★
Dungeon Master	Crystal Comp.	4★
El Dorado	Atlantis	4★
Emerald Isle	Level Nine	4★
Erik the Viking	Level Nine	4★
Espionage	Modular Resources	2★
Espionage Island	Artic	3★
Eureka	Domark	3★
Eye of Bain	Artic	4★
Fairlight	The Edge	5★
Fantasia Diamond	Hewson	4★
The Final Mission	Incentive	4★
Flight from the Dark	Hutchinson	4★
The Fourth Protocol	Century/Hutchinson	5★
Frankie goes to Hollywood	Ocean	5★
Frog Face	Positive Image	4★
Ghoulies	IMS Software	4★
Golden Apple	Artic	4★
Gremlins	Adventure Int	3★
Halls of Things	Crystal Comp.	5★
Hampstead	Melbourne House	5★
The Helm	Firebird	4★
Here comes the sun	Alligata	4★
Heroes of Karn	Interceptor	3★
Hobbit	Melbourne House	5★
Ice Station Zero	8th Day	3★
Inca Curse	Artic	3★
Island	Crystal	2★
Jericho Road	Shards	4★
The Jewel of Power	Slogger Software	4★
Jewels of Babylon	Interceptor	2★
Jungle Adventure	CCS	2★
Kentilla	Micromega	3★
Key of Hope	Games Workshop	4★
King Arthur's Quest	Hill MacGibbon	2★
London Adventure	Fridaysoft	5★
Lords of Midnight	Beyond	5★
Lords of Time	Level Nine	4★
Mad Martha	Mikro-Gen	4★
Madcap Manor	Gilsoft	5★
Malice in Wonderland	Sentient Software	3★
The Magic Sword	Database Pubs	3★
Marsport	Gargoyle	5★
Merlock the Mede	Terminal Software	1★
Mountains of Ket	Incentive	4★
Morden's Quest	Melbourne House	5★
Murder at Manor	Gemtime	4★
Neverending Story	Ocean	4★
Odyssey of Hope	Martech	3★
Operation Nightingale	Softly Softly	3★
Orc Slayer	Gamma Software	3★
Paradox	Runesoft	1★
Pay Off, The	Bignose	2★
Perseus and Andromeda	Channel 8	4★
Phineas Frogg	Mirrorsoft	4★
Pimania	Automata	4★
The Prince	CCS	4★
The Prisoner	Spoof Software	3★
Project X	Compass Software	4★
Quest	Hewson	4★
The Quest for the Holy Grail	Mastertronic	4★
Quetzalcoatl	Virgin	4★
The Rats	Hodder/Stoughton	5★
Red Moon	Level 9	5★
Return of the Joystick	Delta 4	3★
Return to Eden	Level Nine	4★
Robin of Sherlock	Silversoft	5★
Robin of Sherwood	Adventure Int	5★
Runes of Zendos	Dorcas Software	3★
The Sandman Cometh	Star Dreams	4★
Satan's Pendulum	Minatron	4★
Scoop	Sentient Software	3★
Seas of Blood	Adventure Int	4★
Secret Diary of A. Mole	Mosaic	3★
The Secrets of St Bride's	St Bride's	5★
Se-Kaa of Assiah	Mastervision	2★
Shadow of the Unicorn	Mikro-Gen	5★
Sherlock	Melbourne House	5★
Ship of Doom	Artic	4★
Snowball	Level 9	5★
Sorderon's Shadow	Beyond	5★
Spoof	Runesoft	4★
Subsunk	Firebird	4★
System 15000	Craig Comm.	5★
The Talisman	Games Workshop	4★
Temple of Vran	Incentive	4★
Terrormolinos	Melbourne House	5★
Timesearch	Millenium	3★
Tir Na Nog	Gargoyle	5★
Tower of Despair	Games Workshop	3★
Twin Kingdom Valley	Bug-Byte	4★
Underworld	Orpheus	3★
Vampire Village	Terminal	2★
Velnor's Lair	Quicksilva	4★
Volcanic Dungeon	Mastervision	3★
Warlord	Interceptor	3★
War of the Worlds	CRL	2★
Waydor	IMS Software	2★
Width of the World	Mosaic	2★
The Wild Bunch	Firebird	2★

Arcade

Abu Simbel Profanation	Gremlin Graphics	4★
Action Biker	Mastertronic	1★
A Day in the Life	Micromega	4★
A View to a Kill	Domark	4★
Ad Astra	Gargoyle Games	4★
Adven. of a St Bernard	Mastertronic	4★
Airwolf	Elite	2★
Alcatraz Harry	Mastertronic	2★
Alien 8	Ultimate	5★
Android Two	Vortex	5★
Ant Attack	Quicksilva	5★
Arabian Nights	Interceptor	4★
Archon	Ariolasoft	2★
Arena 3000	Microdeal	3★
Armageddon	Silversoft	2★
Assemblage	Artic	4★
Astro-Clone	Hewson	5★
Astronut	Software Projects	4★
Atic Atac	Ultimate	5★
Automania	Mikro-Gen	3★
Avalon	Hewson	5★
Back to Skool	Microsphere	5★
Battle Zone	Quicksilva	3★
BC's Quest for Tires	Software projects	4★
Beach Head	US Gold	4★
Bear Bovver	Artic	4★
Big Ben Strikes Again	Artic	3★
Birds and Bees	Bug-Byte	4★
Birthday Party	Macmillan	4★
Black Hawk	Creative Sparks	4★
Blade Alley	PSS	3★
Blue Max	US Gold	3★
BMX Trials	Lainlan Software	2★
Booty	Firebird	4★
Boulder Dash	Front Runner	3★
Bounty Bob Strikes Back	US Gold	3★
Brainstorm	Bubble Bus	4★
Brian Bloodaxe	The Edge	4★
Brian Jack's Challenge	Martech	2★
Bristles	Statesoft	3★
Bruce Lee	US Gold	4★
Buck Rogers	US Gold	2★
Bugaboo	Quicksilva	4★
Buzz Off	Electric	3★
Caesar the Cat	Mirrorsoft	4★
Carpet Capers	Terminal	3★
Cauldron	Palace	5★
Cavelon	Ocean	4★
Chaos	Games Workshop	4★
Chequered Flag	Sinclair	5★
Chimera	Firebird	5★
Chinese Juggler	Ocean	3★
Chocolate Factory	Hill MacGibbon	3★
Chuckie Egg	A & F	5★
Chuckie Egg II	A & F	3★
Close-In	Pulsonic	2★
Codename Mat	Micromega	5★
Codename MAT II	Domark	3★
Confuzion	Incentive	4★
Corridors of Genon	New Generation	5★
The Covenant	PSS	2★
Critical Mass	Durell	4★
Crusoe	Automata	3★
Custard Kid	New Generation	3★
Cyclone	Vortex	4★
Cylu	Firebird	4★
Daley's Decathlon	Ocean	5★
Daley's Super-Test	Ocean	4★
Dangermouse in D. Trouble	Creative Sparks	4★
Death Chess 5000	Artic	4★
Death Star Interceptor	System 3	1★
Defusion	Incentive	3★
Deus Ex Machina	Automata	5★
Devil Rides In	Mastertronic	4★
Dimension Destructors	Artic	4★
Don't Buy This	Firebird	2★
Dr Franky and the Monster	Virgin	3★
Dragonfire	'Cheetahsoft	3★
Dragontorc	Hewson	4★
Driller Tanks	Sinclair	2★
Dynamite Dan	Mirrorsoft	5★
Energy 30,000	Elm	2★
Eric and the Floaters	Sinclair	3★
Everyone's a Wally	Mikro-Gen	4★
Exodus	Firebird	2★
Falcon Patrol II	Virgin	3★
Falklands Crisis	Lainlan Software	2★
Fantastic Voyage	Quicksilva	4★
Fighting Warrior	Melbourne House	4★
Frankenstein 2000	Icon	2★
Frank N Stein	PSS	4★
Fred	Quicksilva	3★
Froot Loop	NTD Software	3★
Galaxy Attack	Sunshine	2★
Ghostbusters	Activision	4★
Ghost Rider	Positive Image	2★
Giant's Revenge	Thor	2★
Gift from the Gods	Ocean	3★
Gilligan's Gold	Ocean	3★
Gladiator	Domark	4★
Glass	Quicksilva	4★
Glug Glug	CRL	3★
Go To Hell	666	3★
Great Fire of London	Rabbit	3★
Grumphy Gumphrey	Gremlin Graphics	5★
The Guardian	PSS	3★
Gyroscope	Melbourne House	5★
Havoc	Dynavision	1★
Harry Goes Home	Pulsonic	3★
Helichopper	Firebird	2★
Hellfire	Melbourne House	4★
Herbert's Dummy Run	Mikro-Gen	4★
Hickstead	CCS	2★
Highway Encounter	Vortex	5★
Hunchback	Ocean	4★
Hunchback II	Ocean	3★
Hypersports	Imagine	4★
I, of the Mask	Electric Dreams	4★
Icicle Works	Statesoft	2★
Impossible Mission	US Gold	4★
International Karate	System 3	5★
Invasion Body Snatch.	Crystal	5★
Jack and the Beanstalk	Thor	3★
Jasper	Micromega	3★
Jet Set Willy	Software Projects	5★
Jet Set Willy II	Software Projects	3★
Jump Challenge	Martech	3★
Knight Lore	Ultimate	5★
Knockout	Alligata	2★
Kokotoni Wilf	Elite	3★

Komplex	Legend	2★
Kung-Fu	Bug-Byte	3★
Laser Zone	Quicksilva	4★
Laserwarp	Mikro-Gen	3★
Lazy Jones	Terminal Software	2★
Les Flics	PSS	3★
Locomotion	Mastertronic	4★
Lode Runner	Software Projects	3★
Lunar Jetman	Ultimate	5★
Macadam Bumper	PSS	4★
Manic Miner	Bug-Byte	5★
Maziacs	DK'tronics	4★
Maze Craze	Partyline	4★
Metabolis	Gremlin Graphics	4★
Mighty Magus	Quicksilva	2★
Minder	DK'tronics	4★
Mission Impossible	Silversoft	3★
Mission Omega	Pulsonic	2★
Monkey Biznes	Artic	4★
Moon Cresta	Incentive	3★
Moons of Tantalus	Cornhill	3★
Monty is Innocent	Gremlin Graphics	4★
Monty on the Run	Gremlin Graphics	4★
Mr Wimpey	Ocean	4★
Mummy Mummy	Lothlorien	3★
Munnery's Mergatroids	Abacus	3★
Mutant Monty	Artic	4★
New Cylon Attack	A&F	3★
Nicotine Nightmare	Atlantis	2★
Night Gunner	Digital Integration	3★
Nightshade	Ultimate	5★
Nodes of Yesod	Odin	4★
Nonterraqueous	Mastertronics	3★
1994	Visions	2★
911TS	Elite	1★
Olympimania	Automata	3★
On the Run	Design Design	3★
One Man and his Droid	Mastertronic	4★
Orion	Software Projects	3★
Paws	Artic	4★
Pedro	Beau Jolly	4★
Penetrator	Melbourne House	5★
Pi-Balled	Automata	4★
Pi-Eyed	Automata	3★
Pitfall II	Activision	3★
Popeye	DK Tronics	4★
Potty Pigeon	Gremlin Graphics	3★
Potty Professor	Software Farm	4★
Pssst	Ultimate	4★
Psytron	Beyond	5★
Pyjamarama	Mikro-Gen	4★
Quackshot	Creative Sparks	3★
Rapscallion	Bug-Byte	3★
Reactor	Gemini	4★
Riddler's Den	Electric Dreams	5★
Rider	Virgin	3★
River Rescue	Creative Sparks	2★
Robot Messiah	Alphabatim	3★
Robot Riot	Silversoft	3★
Rocco	Gremlin	3★
Rockford's Riots	Monolith	3★
Rocky Horror Show	CRL	3★
Roland's Rat Race	Ocean	4★
Rommels Revenge	Crystal	5★
Rupert & Toymaker's Party	Quicksilva	4★
Saboteur	Durrell	5★
Sabre Wulf	Ultimate	5★
Saimazoom	Silversoft	3★
Shadowfire	Beyond	5★
Shadowfire Tuner	Beyond	4★
Skooldaze	Microsphere	5★
Scuba Dive	Durrell	5★
Select 1	Computer Records	4★
Skull	Games Machine	3★
Sky Ranger	Microsphere	2★
Snapple Hopper	Macmillan	3★
The Snowman	Quicksilva	4★
Software Star	Addictive Games	2★
Sorcery	Virgin	4★
Soul of the Robot	Mastertronic	3★
Space Station Zebra	Beyond	3★
Spectron	Virgin	3★
Spellbound	Beyond	4★
Spellbound	Mastertronic	5★
Splat	Incentive	4★
Sports Hero	Melbourne House	3★
Spy Hunter	US Gold	4★
Spy vs Spy	Beyond	5★
St Crippens	Creative Sparks	3★
Stagecoach	Creative Sparks	4★
Starbike	The Edge	3★
Star Firebirds	Insight	2★
Starion	Melbourne House	4★
Starquake	Bubble Bus	5★
Stop the Express	Sinclair	4★
Strangeloop	Virgin	5★
Submarine Strike	Pulsonic	3★
Super Pipeline II	Taskset	3★
Tachyon Command	Century Software	1★
Talos	Silversoft	4★
Tank Trax	Mastertronic	2★
Tapper	US Gold	5★
Tau Ceti	CRL	5★
Technician Ted	Hewson	4★
10 Pack Volume Two	Automata	4★
Terrahawks	CRL	3★
That's the Spirit	The Edge	4★
Therbo	Arcade Software	2★
3D Bat Attack	Cheetahsoft	3★
3D Lunattack	Hewson	3★
3D Seiddab Attack	Hewson	3★
3D Starstrike	Realtime software	4★
3D Tank Duel	Real Time	3★
3D Tunnel	New Generation	5★
Thunderbirds	Firebird	5★
Tiler Tim	Microwish	3★
Time Gate	Quicksilva	4★
Timebomb	CDS	4★
Tobor	Add-on	4★
Tornado Low Level	Vortex	5★
Toy Bizarre	Activision	3★
Trashman	New Generation	5★
Travel with Trashman	New Generation	4★
Traxx	Quicksilva	4★
Tribble Trubble	Software Projects	4★
Trom	DK'tronics	2★
Turtle Timewarp	Softstone	2★
Tutankhamun	Micromania	4★
Two-Gun Turtle	Lothlorien	4★
Valley of the Dead	Central Solutions	2★
Underwurlde	Ultimate	5★
Way of the Exploding Fist	Melbourne House	5★
Wheelie	Microsphere	4★
Witch's Cauldron	Mikro-Gen	4★
Wizard's Lair	Bubble Bus	4★
Wizard's Warriors	Mastertronic	2★
World Series Baseball	Imagine	3★
World Series Basketball	Imagine	4★
Worm Attack	Pulsonic	1★
Worse Things Happen at Sea	Silversoft	4★
Wrath of Magra	Mastervision	4★
Wriggler	Romantic Robot	4★
Xadom	Quicksilva	2★
Xavior	PSS Software	3★
XCEL	Activision	3★
Zenji	Activision	4★
Zig-Zag	DK'tronics	4★
Zombie Zombie	Quicksilva	4★
Zoot	Bug-Byte	5★

Business

Address Manager	OCP	4★
Banker	Andic Software	3★
Bank Account System	K Gouldstone	4★
Bizzicom	Merlin	1★
Classic Bookkeeping	Manx Tapes	3★
Collector's Pack	Sinclair	4★
Decision Maker	Collins	3★
Electric Office	Fisher Software	2★
Entrepreneur	Collins Soft	3★
Heathplanner	Heath Computing	4★
Histograph	Transform	3★
Home Budget	Kuma Computers	3★
Investment, Insurance, Information	Inform	3★
Invoicing/Accounting	Transform	4★
Keyfile	Keysoft	4★
Letta-Head	Bradway Software	3★
Lifeline	William Stuart	2★
Masterfile	Campbell	5★
Micro Office	SD MICRO	3★
Micropen	Contrast	3★
Mini Office	Database Pubs	4★
Money Manager	Creative Sparks	3★
Multi-File	ISP	3★
Omnicalc	Microsphere	5★
Personal Banking System	Hilton	4★
Personal Financ.		
Plumbers' Price	J Redman	3★
Profile 2	McGraw-Hill	3★
Projector 1	McGraw-Hill	4★
Sales Ledger	Hestacrest	4★
Spectext	McGraw Hill	4★
Stock Manager	OCP	4★
Superfile	Transform Ltd	3★
Tasprint	Tasman Software	4★
Tasword	Tasman	4★
Tasword II	Tasman	5★
The Unitrust Program	Michael Slatford	3★
UNISTAT	University Software	3★
Va£Track	Morley Davies	4★
V-notch	Transform	3★
Word Manager	OCP	5★
Word Processor	Quicksilva	1★

Education

Angle	Chalksoft	3★
Angle Turner	Arnold Wheaton	4★
Antony and Cleopatra	Akadamias	4★
Astro Maths	Scisoft	3★
Biology	Longman	4★
Blockbuster	Compusound	4★
Bodyworks	Genesis	2★
Castle	L'Ensouleiado	4★
Castle of Dreams	Widgit	4★
Castle Spellerous	Sinclair	4★
Chess Tutor 1	Sinclair	4★
Clown	Englefield Software	2★
Cortes	L'Ensouleiado	3★
Dinosaurs	Piper	3★
Disease Dodgers	Sinclair Research	5★
Dyslexia Beater	Dunitz	4★
Eiffel Tower	Chalksoft	3★
Electronic Learner's Guide	ETST	3★
French	Longman	4★
French is Fun	CDS	3★
Friend or Foe	Longman	3★
Viking Raiders	Firebird	3★
German is Fun	CDS	4★
Highway Code	Learning Systems	3★
Highwire	Englefield Software	2★
Hotline	Chalksoft	3★
Humpty Dumpty	Widget	4★
Inkosi	Chalksoft	3★
Learn to Read 1-5	Sinclair	4★
Light and Heat	Rose Software	4★
Linkword	Silversoft	3★
Look Sharp	Mirrorsoft	4★
Macman in the T. Caves	Sinclair Research	3★
Macman's Magic Mirror	Sinclair Research	4★
Mansfield Park	Sussex	4★
Maths	GCE Tutoring	3★
Mathskills II	Griffin	4★
MDA-PCSS	MDA Assoc.	4★
Merchant of Venice	Penguin Study	4★
Mr T's Measuring Games	Ebury	4★
Mr T Meets His Match	Ebury Software	3★
Musicmaster	Sinclair	3★
Nineteenth C. England	Sussex	4★
Oil Strike	Sinclair Research	4★
Paddington's Garden Game	Collins	4★
Pathfinder	Widget	4★
Physics	Longman	4★
Physics	Scisoft	4★
Pirate	Chalksoft	4★
Postman Pat's Trail Game	Longman	4★
Riddle of the Sphinx	Longman	3★
Run, Rabbit, Run	Longman	4★
Sequences	Chalksoft	3★
Snaffle	Longman	4★
Speech Marks	Sinclair	4★
Spelling Bee	Image Systems	3★
Startrucker	Widget	4★
Stuart Period	Akadamias	4★
SuperTed	Longman	3★
Teacher Data	B Farris	4★
Tense French	Sullis	4★
Weathermaster	Sinclair/Macmillan	4★
Weather Station	Arnold Wheaton	4★
Words and Pictures	Chalksoft	3★
Wordsetter	Sinclair/Macmillan	4★
Word Wizard	Longman	3★
Worldwise	Conflict & Peace	5★
Zoo	L'Ensouleiado	3★

Language

Beta Basic	Betasoft	5★

Forth	Melbourne House	5★
Forth	Sinclair	4★
48/80 Forth	ELR	4★
Hisoft C	Hisoft	5★
Logo	Sinclair	5★
Micro Prolog	Sinclair	4★
Snail Logo	CP	4★
Spec. Forth	CP	4★
ZX Forth	Artic	4★

Practical

Astrocalc	Astrocalc	3★
Astronomer	CP Software	4★
Car Cure	Simtron	1★
Computer Christmas Card	Virgin	2★
Computer Cookbook	Bug Byte	3★
Cricket Averages	Spartan CC	4★
Design your Garden	Blandford Press	1★
Diet Master	Diet Master	3★
Dietician	Keysoft	2★
First Aid	Eastmead	2★
How Long have you got?	Eastmead	3★
Know Your Personality	Mirrorsoft	3★
Love Oracle	Solar Publishing	3★
Magic	Macmillan	4★
Microfitness	V0²	4★
Psychedelia	Llamasoft	2★
Screenplay	Macmillan	4★
Spacescan	Macmillan	2★
Star Gazer	CRL	4★
Statistics II	Bridge	1★
The Guide to Medicine	Eastmead	2★
Vega-Table	Vega	4★

Puzzle

Arcturus	Visions	3★
Flix	Softricks	4★
Hareraiser	Haresoft	2★
Mazecube	PAL	3★
Rothmans Football Quick Quiz	Cassell	1★
Stuart Henry's Pop Quiz	Bellflower	4★
3D Strategy	Quicksilva	4★

Simulation/Strategy

Airline	CCS	4★
Alien	Mind Games	4★
American Football	Mind Games	4★
Angler	Virgin	3★
Arnhem	CCS	5★
Ashes	Pulsonic	4★
Atram	PD Visual Marketing	3★
Barrington's Squash	New Generation	3★
Battle for Midway	PSS	3★
Battle 1917	CCS	4★
The Biz	Virgin	4★
Bryan Robson's S League	Paul Lamond	2★
Brewery	CCS	4★
The Bulge	Lothlorien	4★
Caribbean Trader	East Midland	4★
Combat Lynx	Durrell	4★
Confrontation	Lothlorien	4★
Confrontation Scenarios	Lothlorien	4★
Conquest	Cheetasoft	3★
Cricket Captain	Allanson	3★
Dam Busters	US Gold	5★
Dix Mille	CCS	3★
Elite	Firebird	5★
Endurance	CRL	5★
Evil Crown	Argus/Mind Games	1★
Fall of Rome	ASP	3★
Fighter Pilot	Digital Integration	5★
Flight Simulation	Sinclair	4★
Football Manager	Addictive Games	4★
The Forest	Phipps	4★
Formula One	CRL	5★
Full Throttle	Micromega	4★
Frank Bruno's Boxing	Elite	4★
Galaxy Conflict	Martech	4★
Gangsters	CCS	4★
Gatecrasher	Quicksilva	4★
Geoff Capes Strong Man	Martech	3★
Golf	Virgin	4★
Grand National	Elite	4★
Grand Prix Manager	Silicon Joy	1★
Gyron	Firebird	5★
Hacker	Activision	4★
Heathrow Int ATC	Hewson	4★
Howzat	Wyvern	4★
Hunter Killer	Protek	5★
International Rugby	Artic	2★
It's Only Rock 'n' Roll	K-Tel	3★
Jack Charlton's Match Fishing	Alligata	3★
Juggernaut	CRL	3★
Match Day	Ocean	3★
Match Point	Sinclair	5★
Millionaire	Incentive	4★
Mugsy	Melbourne House	4★
New Birkdale	Hornby	4★
New Venture	Falcon	2★
Nick Faldo's Open	Argus	3★
1984	Incentive	4★
Oligopoly	CCS	4★
Olympics	CRL	3★
Overlords	Lothlorien	5★
Panzadrome	Arioloasoft	4★
Pole Position	Datasoft	3★
Plunder	CCS	4★
Red Arrows	Database	4★
Red Weed	Lothlorien	4★
Regards to Broadway	Argus	3★
Reichswald	MW Gamesworld	2★
Royal Birkdale	Ocean	4★
Run for Gold	Five Ways Software	3★
Scatterbrain	Manor	2★
747 Flight Simulator	DACC	2★
Ski Star 2000	Richard Shepherd	2★
Southern Belle	Hewson	4★
Special Operations	Lothlorien	2★
Spectrealm	Runesoft	3★
Star Trader	Bug Byte	3★
Steve Davis Snooker	CDS	4★
Stonkers	Beau Jolly	5★
Strike Attack	Micromart	2★
Super Brat	Atlantis	2★
Super-League	Cross	3★
Super Soccer	Winters	2★
Surfchamp	New Concepts	5★
Test Match	Comp. Rentals	3★
Their Finest Hour	Century Comm.	5★
Tomahawk	Digital Integration	5★
Troon	Hornby	4★
United	CCS	2★
Video Pool	OCP	3★
Viking Raiders	Firebird	3★
War 70	CCS	4★
Waterloo	Lothlorien	4★
Whodunnit	CCS	4★
Wilfred the Hairy	Microbyte	1★
World Cup Football	Artic	4★
World Cup Soccer	Macmillan	3★
Yacht Race	Five Ways	5★

Traditional

Arcturus	Visions	4★
Backgammon	CP Software	4★
Brag	Turtle	4★
Bridge Master	Serin	4★
Bridge Player	CP Software	4★
Bullseye	Mastertronic	2★
Chinese Patience	Atlantis	4★
Cluedo	Leisure Genius	3★
Derby Day	CRL	3★
Double Dealer	MFM Software	3★
Draughts	CP Software	4★
Mind Games	Oasis	4★
Monopoly	Leisure Genius	2★
Scrabble	Sinclair	5★
Super Bridge	Buffer Micro	4★
Superchess II	CP Software	4★
Superchess III	CP Software	5★
The Turk	OCP	4★
Voice Chess	Artic	5★
Yatzee	CP Software	3★
ZX Draughts	CP Software	4★
ZX Reversi	CP Software	4★

Utility

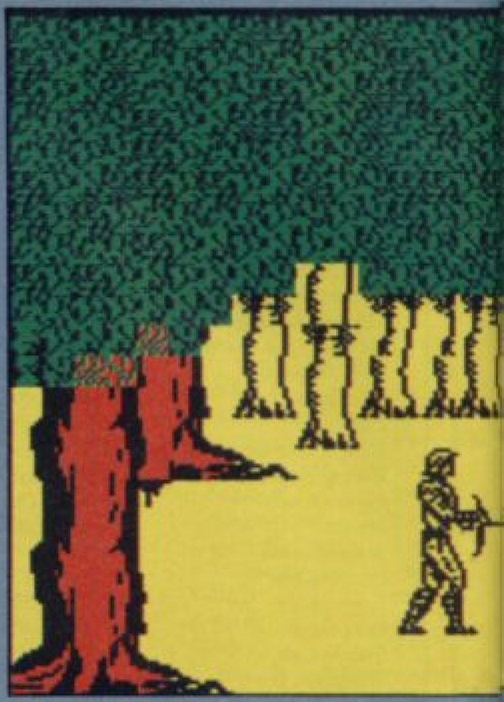
Allsort S-1	A Firminger	4★
Artist, The	Softek	5★
Art Studio	OCP	5★
Assembler	Artic	3★
Assembler	Roybot	2★
Beyond Basic	Sinclair	3★
Blast	Oxford Systems Co	5★
Building Price	J Redman	3★
The Colt	Hisoft	4★
Compiler	Softek	3★
Complete M Code Tutor	New Generation	4★
FP Compiler	Softek	5★
Games Designer	Quicksilva	4★
HURG	Melbourne House	4★
Illustrator	Gilsoft	5★
Keyword Extension	Timedata	4★
Lightmagic	New Generation	4★
Information Handling	McGraw Hill	2★
Make Music	Buffer Micro	4★
Mcoder III	PSS	4★
Melbourne Draw	Melbourne House	4★
Monitor/Diss.	Sinclair	4★
Music Maker	Bellflower	2★
Operation Caretaker	Global	3★
Paintbox	Print & Plotter	4★
The Patch	Gilsoft	5★
Print Utilities	Sinclair	4★
Quill	Gilsoft	5★
Screen Machine	ISP	4★
Softalk 1-2	CP Software	4★
Spec. Compiler	Softek	4★
Spectre Mac/Mon	Oasis	4★
Spectrum Extended Basic	CP Software	4★
Spectrum Forth Converter	Zero-Plus	5★
Spectrum Monitor	Picturesque	4★
Spectrum Sprites	ISP	4★
Spectrum Super Toolkit	Nectarine	4★
Supercode II	CP Software	4★
Varitalk	ITS Software	3★
Vu3D	Sinclair	4★
Wham! The Music Box	Melbourne House	5★
Zeus Assembler	Sinclair	5★

QL

Adder Assembler	Adder Publishing	4★
Archiver	Eidersoft	4★
Area Radar Controller	Shadowsoft	1★
Assembler Dev. Package	Metacomco	5★
Blackjack	Quest	1★
Bridge Player	CP Software	4★
Cartridge Doctor	Talent	5★
Cosmos	Talent	5★
Crazy Painter	Microdeal	2★
EVA	Westway	2★
Expresso Coppee	Total computability	3★
GraphiQL	Talent	5★
GST Assembler	Sinclair Research	4★
Home Finance	Sinclair Research	5★
Hopper	Microdeal	1★
Hyperdrive	English Software	3★
ICE	Eidersoft	5★
Integrated Accounts	Sinclair	5★
Keydefine	Psientific	4★
Land of Havoc	Microdeal	3★
MicroAPL	MicroAPL	5★
MonQL	HiSoft	4★
Pascal	Computer One	4★
Pascal	Metacomco	5★
The Pawn	Sinclair Research	5★
QDraw	Psion	3★
QL Agenda	Q-Soft	1★
QL Bank Accounts System	KJ Gouldstone	2★
QL C Development Kit	Metacomco	5★
QL Cash Trader	Sinclair	5★
QL Caverns	Sinclair	3★
QL Chess	Psion	5★
QL Compiler	GST	3★
QL Entrepreneur	Sinclair Research	2★
QL Gardener	Sinclair	2★
QL Match Point	Psion	5★
QL Meteor Storm	Sinclair Research	1★
QL Monitor	Sinclair Research	4★
QL Payroll	TR Computer Systems	4★
QL Reversi	Sinclair Research	2★
QL Reversi	Softschool	1★
QL Toolkit	Sinclair	5★
QSpell	Eidersoft	4★
Quilmerge	Pitch Associates	3★
Super Backgammon	Digital Precision	2★
SuperBasic Extensions	Hi Soft	4★
Super Sprite Generator	Digital Precision	3★
Touch 'n' Go	Sinclair Research	2★
Typing Tutor	Computer One	3★
Sketchpad	Sigma Research	3★
Zkul	Talent	4★

Win a real Wilkinson sword

Take a stab at our Gladiator quiz



CHOOSE YOUR WEAPONS as you will — sword, shield, lance or spear, dagger or club, net or trident. Only skill and sheer stamina will enable you to survive the bloody entertainments of ancient Rome. How many opponents must you slaughter before the Emperor gives you your freedom? Play **Gladiator** . . . and, if you're lucky, survive.

Domark's game brings to life the horrors of the arena as no other fighting game has attempted to do — a choice of 45 weapons, with 25 joystick positions.

But no gladiator can live without a good weapon, and Domark has a special prize to give to the winner of our competition.

It's a sword.

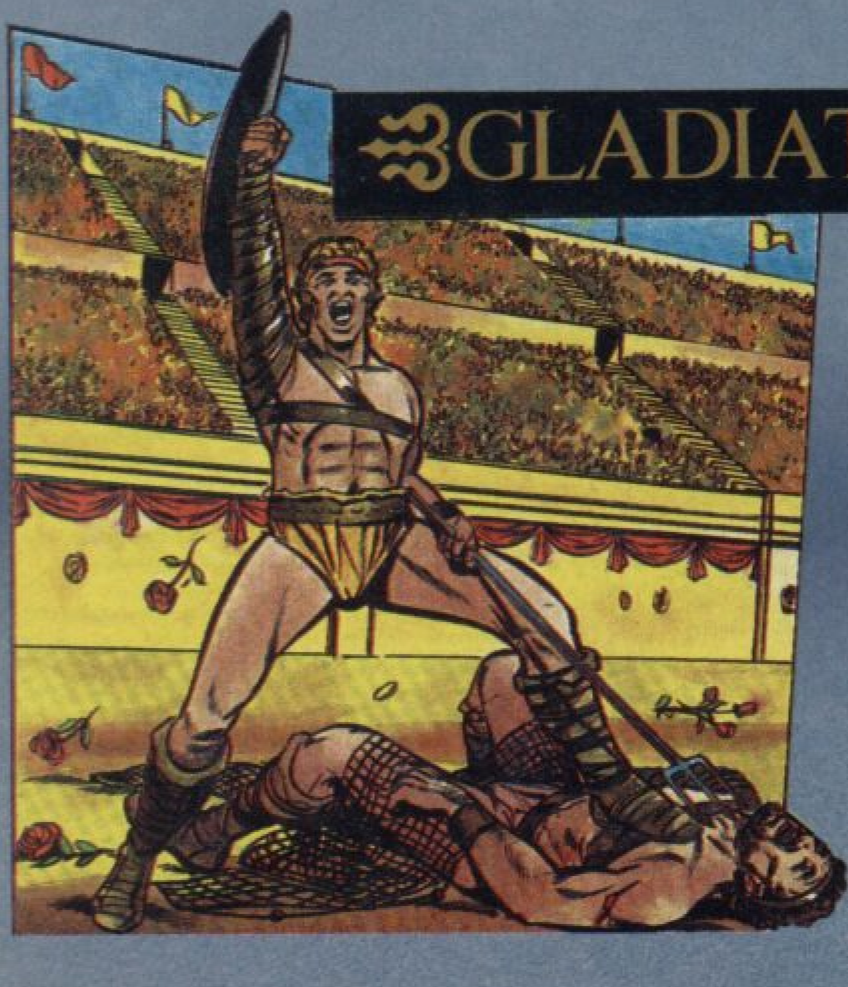
Not just any sword, thought. Not a toy sword, made of wobbly plastic. A real sword, 28in of solid steel, ground and fired at 800 degrees centigrade, quenched in oil and tempered in molten lead.

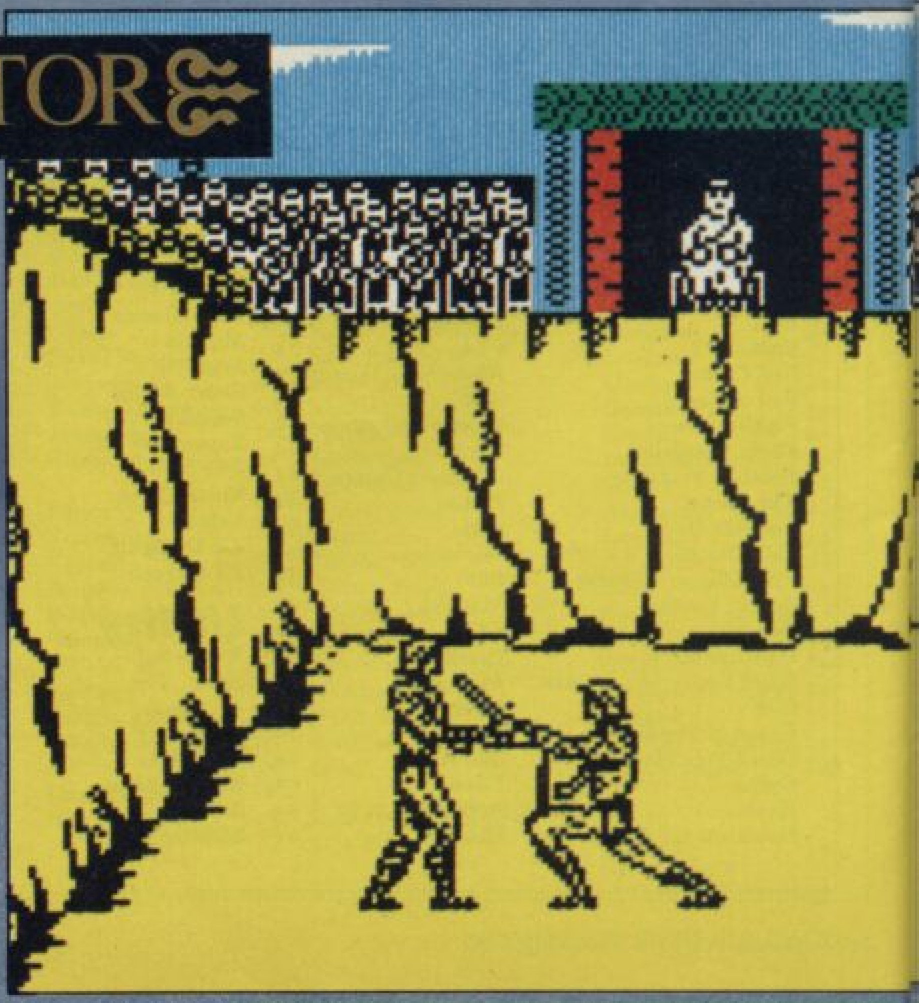
A hand-crafted blade made by the world's leading swordsmiths at Wilkinson Sword. It will have been checked for strength by smashing it against an iron bar, polished, burnished and etched with acid before the hand-moulded grips and pommel are added.

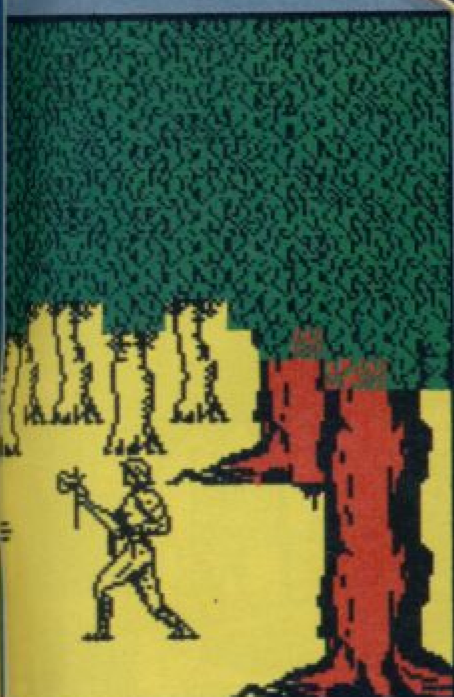
The weapon will be mounted on a wooden base with a plaque recording the winner's name.

There are also prizes for the runners-up. The next 20 correct answers will each win a Domark T-shirt and a voucher offering a 50 per cent reduction on any game bought mail-order from Domark. A further 30 runners-up will receive the voucher alone. Domark has also offered to send every entrant a catalogue of all its games with huge discounts on each one — including **Friday the 13th.**









All you have to do to win this magnificent sword is answer the five questions below about gladiators. Select the answer you think is correct and write the five letters down on a postcard. Send it to us at Gladiator Competition, *Sinclair User*, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU not later than Friday, February 14, 1986. Slaves and other employees of EMAP are not allowed to enter.

1 How did the emperor show his approval of a gladiator?
a) He gave him the thumb's up;
b) He had him killed;
c) He married his daughter.

2 Which famous gladiator led a revolt of slaves?
a) Julius Caesar;
b) Spartacus;
c) Indiana Jones.

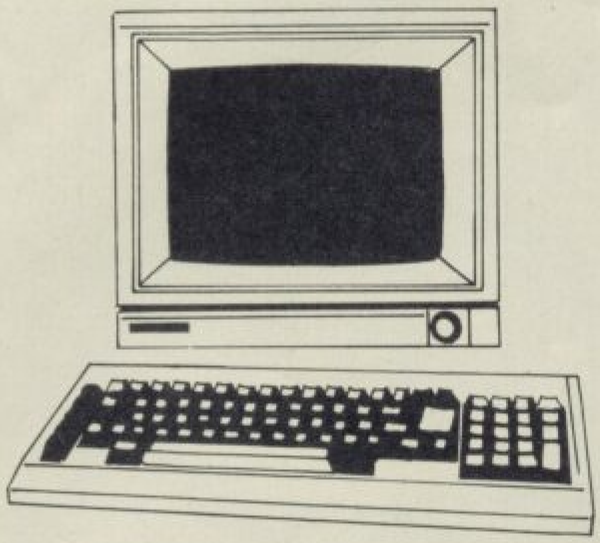


3 What other weapon did the net-fighter usually carry?
a) A crossbow;
b) A trident;
c) A pike.

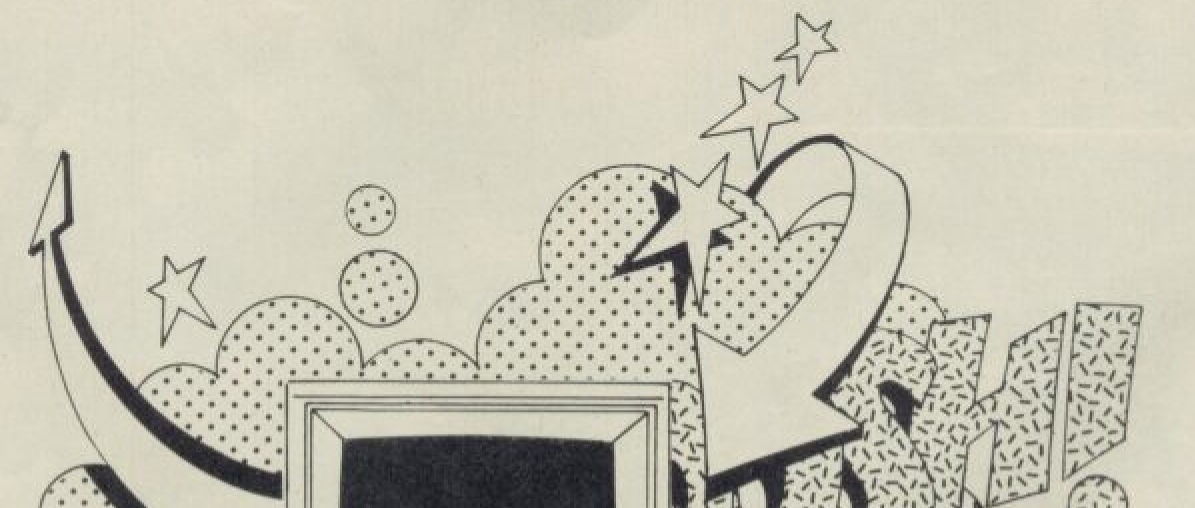
4 Which of the following is *not* a type of dagger?
a) Poinard;
b) Misericorde;
c) Javelin.

5 Where were the main Roman gladiatorial games held?
a) The Colosseum;
b) The Acropolis;
c) The Forum.

This computers' owner didn't get the FREE Book of Games inside the February issue of Computer + Video Games, on sale January 16th.



This one did!



If you're the proud owner of a **Spectrum, Commodore 64, Amstrad, BBC, Atari** or **QL,** you can't afford to miss Computer & Video Games. Not only are there great listings in the **FREE Book of Games,** but it's also jam packed with software reviews, an exclusive review of MAX HEADROOM, the chance to win a video camera in our BACK TO THE FUTURE competition, plus hundreds of pounds worth of software up for grabs.

Don't deprive your computer this January!

FAST COMPUTER REPAIRS

VIDEO VAULT INTERNATIONAL

10★ REPAIR SERVICE

ACCESS WELCOME

THE NO. 1 REPAIR CENTRE IN THE U.K.

24 HOUR TURNAROUND

WHILE YOU WAIT SERVICE
CALL FOR APPOINTMENT



SPECTRUMS REPAIRED for only £19.95

including **PARTS · INSURANCE** and **P & P.**

NO HIDDEN EXTRAS We don't give you a between price and let you guess the bill, we give you a 100% fixed price NO extras. We don't need to boast about our service, we have 1000's of customers from all over the world highly delighted with our service and help. Only 20 minutes from Manchester Centre. BBC, Commodore 64, Vic 20, also repaired call us for details.

Don't wait weeks for your repair, we turn around all computers in 24 hrs. All repairs carry a full 3 month guarantee, plus on every Spectrum we repair, we send you a free game worth **£5.95** for your enjoyment and pleasure.

* While you wait service by Professional Computer Engineers.
* 3 month written guarantee on all repairs.
* International Repair Company. We repair computers from all over the world.
* All computers sent by Mail Order turned around in 24 hrs.
* Most Spectrums repaired within 45 minutes.
* All Micros insured for return journey.
* Keyboard faults only **£8.95**
* School repairs undertaken - discount available.
* Free software with each Spectrum repaired.
* Over 8 years experience working with computers. All computers fully tested.

HOW TO SEND YOUR COMPUTER Just parcel your computer in suitable wrapping enclosing **£19.95** for Spectrum repairs, please do not send power supplies. Commodore computers, just send **£1.75** (U.K. Eire, I.O.M. C.I.) or **£6.50** (Europe/Scandinavia) with your address or phone number and we will contact you same day by phone or letter with quote, if you prefer, please call us and we will give you a quote over the phone, we aim to please. That's what made us the most reliable service centre.

TRADE REPAIRS most welcome

(SPARES AVAILABLE THROUGH OUR D.I.Y. SECTION.)

BEST SERVICE – BEST PRICES!

COMMODORE 64

* NOW REPAIRED *

Call us for details or purchase the I.C's from our D.I.Y. section

WE ONLY USE SINCLAIR SPARES. FITTED BY OUR QUALIFIED STAFF!

THE LOGICAL CHOICE

*SPECIAL

KEYBOARD UPGRADE



Why not upgrade your Spectrum into a new keyboard, we can upgrade your old Spectrum into a new D.K. Tronics keyboard for only £31.50 which includes fittings + return P. & P. and V.A.T.

Normal retail price £49.95 without fitting

ORDER NOW!

THERE'S NOBODY QUICKER IN THE BUSINESS AT PRICES THAT CANNOT BE BEATEN

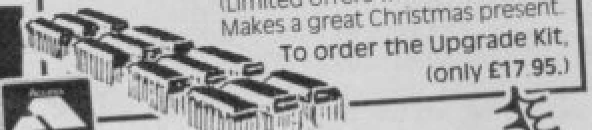
SPECIAL OFFER!

YOU CAN'T REFUSE

16K to 48K Upgrade

Upgrade your 16K Spectrum to 48K Spectrum for only £19.95 fitted including V.A.T. and P.&P.

(Limited offers while Stocks Last.)
Makes a great Christmas present.
To order the Upgrade Kit, (only £17.95.)



P.S. We would like to wish all our customers past and present a very Merry Christmas and a Happy New Year.

VideoVault D.I.Y. CORNER

We regret we cannot show all the components available. Just give us a call and we can quote you over the phone, delivery by return.

Spectrum Parts	
Z80A CPU	3.50
4116 Rams	1.00
ZTX 650	0.60
Transistor ZTX 213	0.30
Transistor ZTX 313	0.50
Power Supply Units	7.95
Feet (Each)	0.25
16K to 48K Upgrade Kit	17.95
Sockets 16-40 Pin	14-50p
Cassette Leads	3.50
T.V. Lead	3.50

Commodore 64 Chips	
6526	23.00
6510	23.00
6581	23.00
901227-03	23.00
901226-01	23.00
901225-01	23.00
6569	23.00
4164 Rams	3.00
Power Supply Units	29.00

All prices + P.& P. £1.50
But include V.A.T.

TRADE ORDERS WELCOME

STOP PRESS

VIDEOVAULT LTD will shortly be opening their New Branch in Manchester City Centre for while you wait computer repairs, watch this space for details of Special opening offers.

VIDEOVAULT HEALTH WARNING!!!
Sending your computer to any other Repair Centre can seriously Damage its Health

OPEN 7 DAYS A WEEK

VideoVault Ltd.

Telephone: Glossop (STD 04574) 66555/67761
Dept. 97,140 High St. West, Glossop, Derbyshire, England.

FREE GAME WORTH £5.95 WITH EACH SPECTRUM REPAIR.

sinclair supermart

TO ADVERTISE IN THE SUPERMART CALL SINCLAIR USER ON 01-251 6222

FIXED PRICE SPECTRUM REPAIRS

Our fast, efficient repair service provides you with a safe and easy method of getting your Spectrum repaired. Every Spectrum receives our 5 star service:-

- ☆ **Repaired for only £19.95 inc. VAT, parts & labour and P & P. Full return insurance. No hidden extras**
- ☆ **24 hr. turnaround**
- ☆ **Serviced by trained and experienced engineers**
- ☆ **Only genuine Sinclair spares used**
- ☆ **3 Month written guarantee on repair**

We have over 4 years experience and 1000's of satisfied customers

Send your Spectrum to us with a brief note describing fault and a cheque/PO for £19.95.

FIRST BYTE COMPUTERS

10 Main Centre, Derby, DE1 2PE.
Tel : 0332 : 365280
Open 6 days a week for personal callers.

SINCLAIR SERVICE CENTRE

Fast repair service Spectrum: ZX81 Interface 1; Microdrive. All units repaired to original standard by our HNC qualified staff Average repair cost £15.00 but for free estimate send £1.95 return postage with a brief discription of your fault. Turnround approx 24 hours: established international service: our work is fully guaranteed Personal callers welcomed.

QUANTUM.
33 City Arcade, Coventry CV1 3HX
Phone (0203) 24632 or (0203) 714080

LEARN PROGRAMMING

We'll develop your skills more quickly and professionally with our home study, Programming Course, based on Spectrum. Write today for

FREE BROCHURE – NO OBLIGATION

Ref SU1

IDEAL SCHOOLS
FREEPOST, Woking, Surrey GU21 4BR
Tel. 041-248 5200

THE BEST BACK-UP INTERFACE

£32.95 SPEC-MATE £32.95

automatic one touch transfer to:
★ MICRODRIVE ★ WAFADRIVE ★ BETA-DISK ★
★ TAPE DOUBLE-SPEED ★ SPRINT ★OPUS

Opus Users £3 extra. Opus & Sprint Users contact us for details

"The transfer procedure is simplicity itself" CRASH Magazine

1. **Makes independent back-ups/transfers of *ANY* program.**
2. **Expansion port included. (You can keep SPEC-MATE attached if you want but you do not have to)**
3. **No additional software required. Fast, direct auto-transfer.**
4. **"Freeze" program at any point. (Can be used as save-game opt).**
5. **Finished in Spectrum style black case.**
6. **Add pokes with ease.**
7. **Convert any program into a 2 minute reliable Turbo loader.**

A.T and Y Computing Ltd
35 Villa Road, London SW9 7NS.
Information: Phone 01-733 6175 or send SAE

Fully inclusive price: £32.95 (OPUS plus £3) (Europe +£2 other countries +£4)

QL BUT NO PRINTER?

We print your Quill documents on top quality paper (100 gsm bond) using Diablo daisy wheel Printers with carbon ribbon.

Prices:	
1-5 Pages	26p/page
6-20 Pages	22p/page
21+ Pages	19p/page

Dot matrix Quill drafts and QL Program listings: 12p/page. Please add 45p post and handling charge for orders under £3.

Send for full details or QL microdrive cartridges with clear instructions to:
DATA PRINTING SERVICES
25 Seymour Road, Bath, BR1 6DY

Please note: we suggest that, in keeping with good software practice, you send only backed-up microdrive cassettes, clearly labelled.

SPECTRUM SOFTWARE HIRE

FREE MEMBERSHIP

We offer prompt personal service, all top titles. Send SAE for Hire Details to:

SSH (SU),
21 Chaceley Way, Wilford
Nottingham NG11 7EG

SPECTRUM REPAIRS

Spectrum repairs £18.95 including parts insurance and P/P.

Send your computer with cheque or PO for £18.95 and description of the fault to:

SUREDATA (SU)
45 Wychwood Avenue,
Edgware, Middlesex.
Tel: 01-951 0124

M-DOC

The essential Microdrive utility.

● Find, load and repair bad sectors, and hence load damaged files ● Full status reports pinpoint faults quickly ● Monitor-type sector editing ● Full printer support ● "Filter data" option for Tasword Two files ● Separate program makes corrupted BASIC programs editable ● Only **£6.95**

Spectrum 48K/Plus only. Fast mail order (UK post free, Europe add £1, overseas add £2 airmail) with seven-day "money back if not entirely satisfied" guarantee (statutory rights not affected). Also available from computer shops and Micronet (dealers phone R&R Distribution on 0977 795544). C-Doc upgrade £2.50 (please return cassette only).

SEVEN STARS Seven Stars Publishing, Dept U, 34 Squirrel Rise, Marlow, Bucks SL7 3PN. Tel: 06284 3445.

SPECTRUM REPAIRS

All repairs at fixed prices, regardless of fault, by our fully qualified staff.

Spectrums	15.00
Keyboard fault	12.00
ZX Printer	15.00
Interface I	18.00
Interface II	15.00
Microdrive	18.00
48K Upgrades	28.50

Please enclose £1.50 p+p for each item sent, and a brief description of fault to:
Micro : Men, The Old School, Main Street, Farcet, Peterborough, PE7 3DB.
Other makes quoted on request

COMPUTER REPAIRS IN SOUTHEND

Spectrum / plus	£19.95
Spectrum K/B faults	£12.95
Interface 1/2	£14.95
New spectrum power supply	£9.95
C64/Vic 20	from £12.95

Above prices include parts, post & packing. All repairs are guaranteed 3 months.
Call in or phone for more details.
MINNIE MICRO ELECTRONICS,
12 EASTERN ESPLANADE,
SOUTHEND, ESSEX.
TEL: (0702) 62033/615809
OPEN 7 DAYS A WEEK

HOBBY SOFTWARE

An exciting new range of utility programs

For Football Fans:

LEAGUE TABLE — A program that follows the fortunes of your team and the league in which they play. Calculates any league table — Easy to enter results — Current form table — Analysis of league ups and downs — End of season predictions. Price £6.95.

CHAMPIONS — This program has all the winners of the major European and domestic competitions (including Divs. 1 to 4). The winners of a competition can be shown in year order or by most number of wins. Enter a teams name and the program will tell you what trophies they have won and in which year. Update each year with new winners. Price £4.95.

TEAM RESULTS — For Spectrums with microdrives — A program to save all your teams results. Stores date, opponents, competition, result, venue and attendance. To inspect the records just select opponents and the computer will display your teams results against them. Price £4.95.

For Cricket Lovers:

AVERAGES — A program to calculate the statistics so important to players and followers of cricket. Calculates batting averages, bowling averages, catches and stumpings. Displays players averages best first. Add or delete players. Price £6.95.

For Shareholders:

SHAREHOLDER — This program helps you to keep a watch on your share investments even if you only have BT shares. Enter shares bought or sold — Update prices as often as you wish — Graphs will display their performance enabling you to spot trends.

****SPECIAL OFFER**** Buy any 2 programs and save £2. All prices include p&p. Make cheque/PO payable to Hobby Software and send to:

Hobby Software, 4 Brampton Court, Bowerhill, Melksham, Wilts SN12 6TH.

RACING LEAGUE

If you think that computer games are mostly variations on the same old themes then join the famous personalities in the RACING LEAGUE! This refreshing simulation game is for one to four players. Features include buying and selling of horses, betting, jockeys, loans, racing sequence etc. As in real life you will need skill and luck to succeed. Can you become Top Owner? A Save Option keeps the game going as long as you like. For 48K Spectrum and Spectrum Plus and only £3.50 post free from:

R. L. Software, 22 Lindale Garth, Kirkhamgate, Wakefield, West Yorkshire WF2 0RW.

CAN YOU PROGRAM in Z80 M/C? I need help on a control project. Call Pat on 405 0978 anytime, (East London area).

MICRODRIVE STORAGE. Professional-style loose leaf filing system. Transparent plastic storage units for 20 cartridges £1 each. Loose leaf file — holds up to four units, £2 each. Postage £1. 11 Beverley Road, Dibden Purlieu, Southampton, SO4 5HR.

AZED WORD GAMES

All our games for the 48k SPECTRUM include a 20,000 word in-memory dictionary. They are fast and very challenging.

TAPE 1

XO WORD: Try to beat the computer at composing anagrams in this challenging game of strategy.

ANAGRAMS: Make amusing anagrams of friends names etc. e.g. Clive Marles Sinclair = Cries in small vile car (the C5?).

WORDLIST: Powerful facility for searching for letter patterns. Ideal for crossword solvers and compilers.

TAPE 2

WORDSEARCH: An infinite number of word-search puzzles each composed in a few seconds. Up to 60 words in each puzzle with 4 levels of difficulty, or use the program to create your own puzzle.

CHALLENGE: From its large store of 9-letter words, the computer selects one and jumbles its letters. The challenge is for you to make more words from the letters than the computer (which may find up to 100).

Send £5.95 for each tape or £10 for both to:

Azed Software, Silicon House, 3 Victoria Gardens, Henstridge, Templecombe, Somerset.

SPECTRUM SOFTWARE at discount prices. Hundreds of titles available. New releases every week. SAE for price list to: Alphasoft (SU), 115 Parsonage Road, Withington, Manchester, M20 9WZ.

ENGLISH LANGUAGE 'O' Level/CSE worries? 5 programs help increase knowledge and develop exam techniques. *Spectrum 48K Cassette.* Send £4 to S. Gibbons, 25 Ashurst Avenue, Saltdean, Brighton, East Sussex.

KEMPSTON 'E' Centronics Printer Interface for Spectrum, £20.00. Spectext word processor £6.00. Tasword 2 word processor £7.00. O.C.P. full screen editor/assembler and machine code test tool. £11.00 the set. Phone 04203 5969.

FREE MEMBERSHIP Spectrum Software hire, latest titles, originals only. Send a SAE for your membership kit to: Spectrohire, 27 Colville Terrace, Nottingham NG1 4HL.

FREE SPECTRUM REPAIRS?? SEE MANCOMP AD. ON PAGE 125

SUPERDRAW 2

Produce superb screen graphics for both arcade & adventure games on your Spectrum & Spectrum +.

Thirty routines including Graphic Designer which allows 704 UDG's to be placed on one SCREEN/attrubite fill/shape fill/save/store & invoke from memory, etc.

Cheques/PO's/£4.95 to: Pearl Software, Ivy House, Corwen, Clwyd LL21 0AB.

SINCLAIR COMPUTER REPAIRS

All machines dispatched within 72 hours of receipt

Spectrum: £17.00
ZX-81: £12.50
Spectrum 16-48K Upgrade: £25.00
(includes parts, VAT, and return postage)

For a fast and reliable service, send machine, brief description of fault and cheque or postal order to the experts:

CAPITAL COMPUTER SERVICES
Unit K2, Cardiff Workshops, Lewis Road, East Mourts, Cardiff CF1 461 5EG
Tel: (0222) 461801

POOLS PREDICTION

Perfected over 6 seasons. Outputs best draws, homes & aways. Holds form comparison graphs. Analyses & graphs results. Takes full account of mid week games & "Cup" matches between main league teams. Promotion/relegation option (can be used from season to season). Easy to use, even for beginners. 96 wins (355 dividends) received by author so far.

"The best and most scientific of any Program I have seen" — Mr R.A.P. Secretary Orpington Computer Club. "Once again, thank you for one of the best investments I have made" — Mr D.L.B. Feltham. "I would like to congratulage you on your excellent service. It is a rare thing these days" — Mr L.G.P. Shrewsbury. "I found your Program very professional and user friendly, I am very satisfied with it" — Mr B.D. Spalding.

Ask for British Pools @ £11.95
Australian Pools @ £11.95

Allow 7 days for delivery. Cheques, POs payable to Rombest or quote Access card number.

Rombest Dept SU, 2 Welland Croft, Bicester, Oxon, OX6 8GD. (0869) 248002.

Available for 48K Spectrum & Commodore 64. Add £2 for Sinclair microdrive or 1541 Disk Drive.

FREEPOST SPECTRUM REPAIRS

GUARANTEED SIX MONTHS

We have been maintaining all types of computer systems from mainframes to micros for over 15 years and offer you:

- Full overhaul and update with each repair.
- Six month warranty on *whole* computer – not only on repair.
- FREEPOST – We pay the postage both ways (UK).
- Returned to you by 1st class post. Fully insured.
- All inclusive prices for any fault £20.

MP ELECTRONICS, FREEPOST, DEREHAM, NORFOLK NR19 2BR
TEL: 036287 327

Reach an estimated readership of 250,000 users per month for as little as £5.00* (inc VAT)
Or if you are starting your own small **business** advertise in the supermart for only £17.00 (inc. VAT)
Yes, all you have to do is fill in the coupon below including your name, address and telephone number and send to: Supermart, Sinclair User, EMAP, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU
Maximum 30 words. Your advert will appear in the earliest possible edition.

Name ....

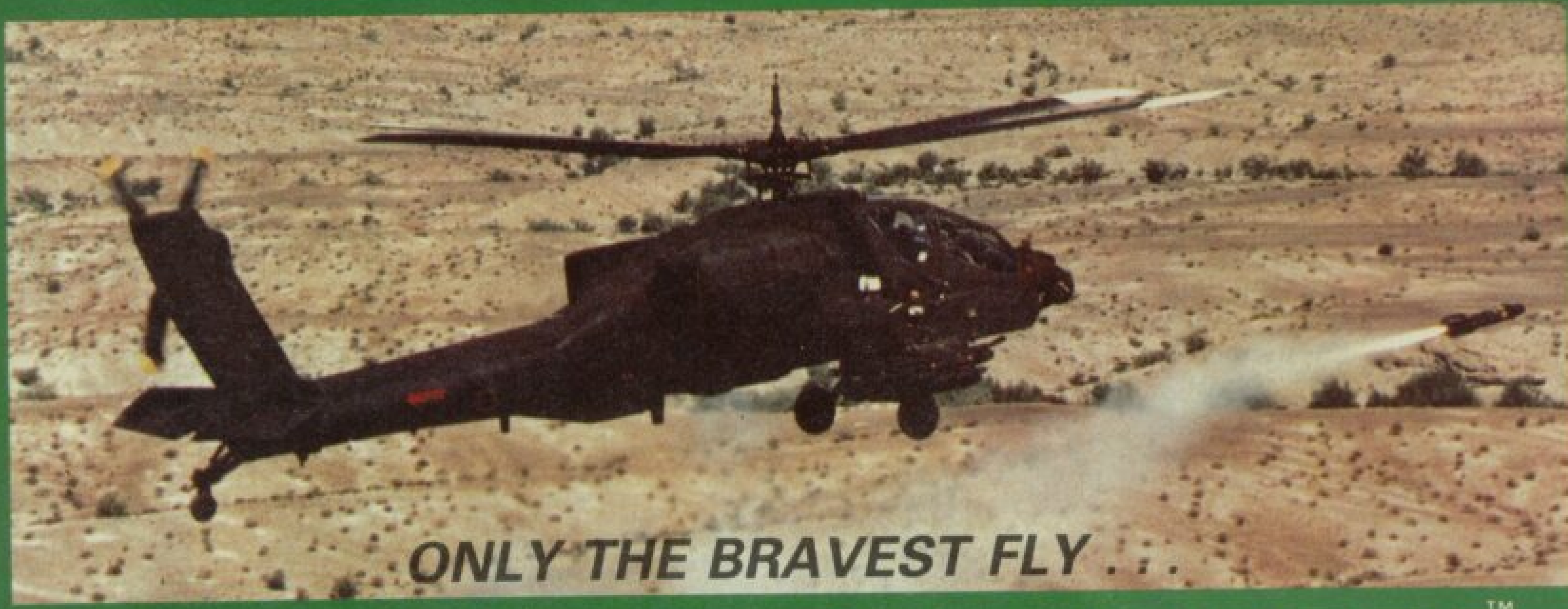
Address ....

.... Tel: ....

Have you included the fee of £5.00* or £17.00? ***for second hand sales only**

Make cheques payable to EMAP PUBLICATIONS LTD

Conditions
The Advertisement Manager reserves the right to alter, reject or suspend an advertisement without assigning any reason. The Advertisements are accepted subject to approval of copy and to the right of the Advertisement Manager to alter, reject or cancel any order without explanation. The Proprietors are not liable for any loss from any cause whatever, nor do they accept liability for printers' errors. The Advertisers shall indemnify the Publishers in respect of any claim, cost and expenses arising out of any libellous or malicious matter or untrue statement in any advertisement published for the advertisers, or any infringement of copyright, patent or design therein. The placing of any order will be deemed to be an acceptance of these conditions.



TOMAHAWK™

Chris Bourne plucks up courage for a spin in the war machine

FLIGHT SIMULATION enthusiasts need no introduction to Digital Integration, publishers of **Fighter Pilot**, which has been acclaimed as far and away the best simulation of a conventional aircraft on the Spectrum market, with its dogfight options and realistic controls.

Since then, programmers Dave Marshall and Rod Swift have been quietly working on **Tomahawk**, a simulation of the USAF Apache helicopter, as vicious a beast as ever darkened the skies of modern war.

The first thing you notice about **Tomahawk** — and if you don't Dave will point it out soon enough — is the staggering amount of detail on the screen. Trees, mountains, artillery, tanks, buildings, pylons — all picked out in wireframe graphics which, while at times may seem distorted, are nevertheless well in advance of anything you've ever seen before on a simulation.

"A helicopter is quite slow," says Dave, "but it's designed to fly low. 150kts at ten feet is quite exciting, so we needed to have ground content to simulate speed." After some false starts, he decided on a pattern of dots which stream towards you as you fly, and which you can visualise as small bushes or hummocks.

They tend to confuse you when searching for targets on the horizon, which also look like small dots — you are thus forced back on your instruments for accurate information, as a real pilot would be.

Apart from the usual training mode, where nothing fires at you — although the enemy helicopter will play a kamikaze role and attempt to collide with you — the program includes several options for games of varying length. The full version is played across the whole of the map. Some of the squares you control, others are controlled by the enemy, and you must drive the enemy out of those while making sure he doesn't overrun your own territory in the process. Since each square contains eight ground targets, that's a long haul.



Inanimate objects pose a threat—here the pilot is flying over pylons

"Rod cleared the whole thing the other day," says Dave, awed. "That was about 200 tanks, 200 field guns and about eight helicopters, I think."

Rod sits back and looks very smug.

Dave prefers option two, where you have to clear just four squares of map. He says the record is about 22 minutes, though he clearly hasn't reckoned with the godlike skills of *Sinclair User* readers. how about it, guys? Anyone done better than that yet? And how about the masochist's delight — clearing the whole of the map from just one sector? Dave reckons that takes about twenty hours.

"You start suffering from battle fatigue eventually," says Rod. "After all, real pilots would only be airborne for two-and-a-half to three hours."

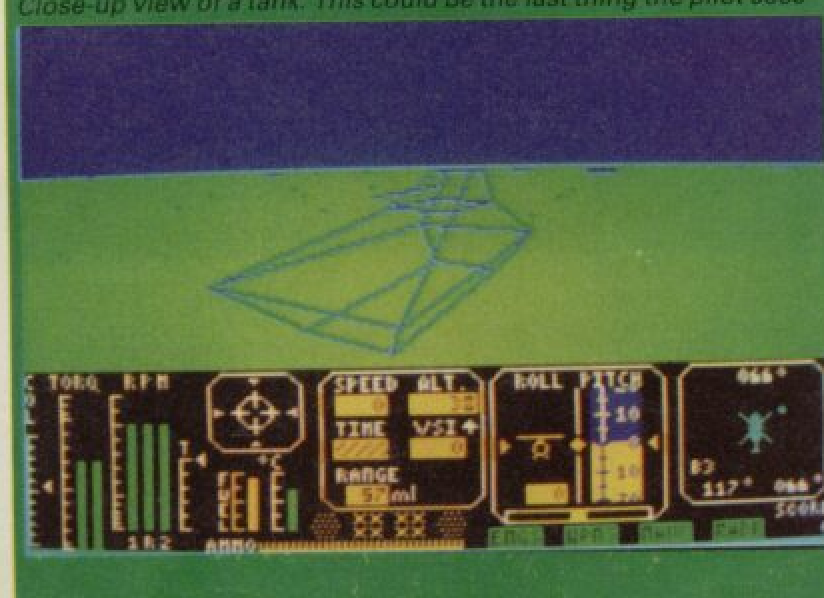
For real horrors, try flying at night — and with cloud cover, which means, at the toughest option, that you can't see anything unless you're low enough to collide with it. The night option blots out the horizon so that all you can see are the outlines of the features and those hypnotic dots. It becomes difficult to tell whether you're upside down or flying level or crashing towards the ground. It becomes difficult to do anything at all except gibber and dribble and die, smashed into fifty thousand little pieces against the side of a mountain.

"Slowing down is the biggest problem," says Dave, helpfully. "In a real helicopter it would take you about two miles". One way of slowing down is to stick the nose up in the air, which is fine but tends to gain height. It would, wouldn't it? And if you're too high to see your targets, you have to dive, and then you gain speed, and before you know where you are you've ripped your rotor blades off. C'mon Dave, there's got to be an easier way of making the world safe for democracy.

"Look," says Dave, infuriatingly calm. "Most people try to control an aircraft with the joystick alone, but you have to use both throttle and stick." Right, so the throttle controls your speed and the joystick sends you up and down, OK?

"Wrong. The throttle controls

Close-up view of a tank. This could be the last thing the pilot sees



your height and you use the joystick to accelerate or slow down."

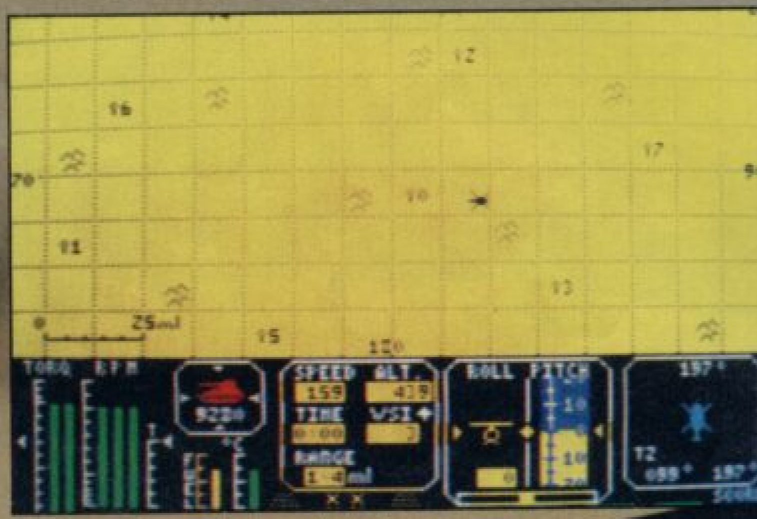
Just when we think we've got used to that idea, Dave introduces the subject of turbulence. Yes, you can inflict crosswinds and turbulence on yourself, if you want.

"In real life a helicopter behaves quite differently from a fixed-wing aircraft in turbulence. You experience a visual oscillation but as you've got a weight hanging below your rotors you're much more stable. Don't fight the turbulence — let it ride."

In fact, as in real life, below a certain height the turbulence and wind have no effect at all, so you could always drop down into the calm if you find yourself in trouble. Only then it's pylon-dodging time again . . .

The stability of the Apache, which has advanced computerised auto-stabilisers, is one of the reasons why Dave and Rod chose it for a simulation in the first place. In effect, because it's easy to control. "It was the first problem we had," says Dave. "Initially the Apache isn't actually controllable. A pilot could never fly it without all the stabilisers."

Another reason for choosing the Apache is all the lethal weaponry it carries. The original manages 16 Hellfire missiles, a 30mm cannon and four 19-round pods of 70mm rockets. Dave seemed to think that was a bit much, so the Spectrum version only has eight missiles and two pods of rockets to go with the cannon. On the other hand, you can always land at a helipad to stock up with more.



The map shows the hostile helicopter.

The rockets and cannon have to be aimed, and the target kept within the sights at all times, but the missiles can be instructed to home in on a target. They're particularly useful for blasting the enemy helicopter out of the sky, although it's much more fun to get in close and use the cannon.

The real Apache has a laser sight on the nose which automatically tracks targets. It can also be controlled by the pilot's helmet, a frightening thing called an Integrated Helmet and Display Sight System. Simply move your head, and the laser sights move with you.

"You can pop up from behind a hill," says Dave, "take a video of your target, pop down again and examine the video to select a target, then go up again to illuminate it with the laser, fire, and hide again. The video uses computer-enhanced imagery."

And you can do all that in the middle of the night using infra-red cameras. Fighting with a real Apache is really just like playing a computer game — a comparison with which Dave readily agrees. He thinks it's disturbing as well.

Apart from the helmet feature, the weapons on the game work in the same way. When you zero in on a target, it pops up in the centre of the Range-finder display as a field gun or a tank or enemy helicopter, sometimes well before you can see it on the main screen. The missile target square changes from dotted lines to solid, and as long as that solid square remains on the screen you can fire the missile.

It even works from within cloud cover or behind trees and mountains, although Dave confesses that you can also shoot your guns through the mountains, which is not quite so realistic. "Still, you can't have everything for £9.95," he says.

The enemy helicopter in the game — there's only ever one at a time, but a new one comes on the minute you destroy the old — is not an Apache, you'll be relieved to know. Mind you, it's a brave machine, which always comes after you, and in trainee mode is actually suicidal, ramming you if you don't attempt to kill it. It always matches your height, and carries rockets with a range of 4,000 feet. Your Hellfire missiles have a range of up to three miles, so the battle is fairly one-sided, but then again, there's only one of you.

Given the propensity of tanks

COL/TORQ: These control the amount of lift you have.

RPM/T: The two outer columns, 1 and 2, give the engine rpm, and the central one the speed of the rotors. It's possible to cut power completely, bringing T down to zero, and still maintain R because of upward air-pressure.

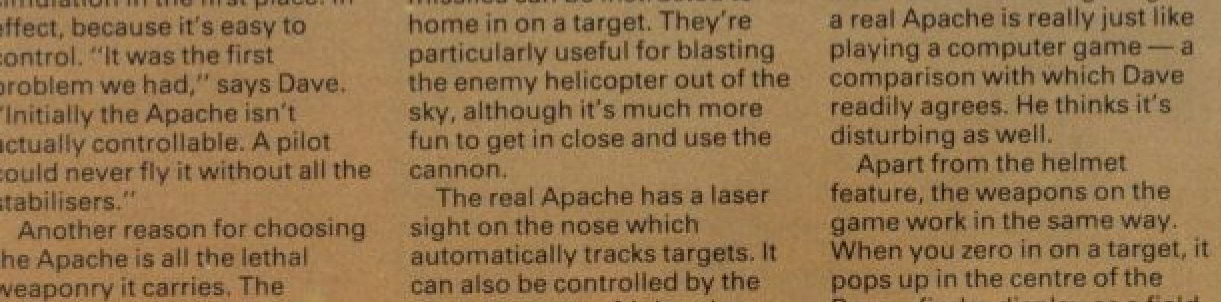
Speed: In knots.

ALT: In feet.

Time: Time taken to reach your target at current speed.

VSI: In feet per second. It's currently downwards, and at 1 f/sec.

ENGS/WPNS/NAVG/TADS: These indicators change colour when you are damaged, and show you which part of the helicopter has been hit. TADS is the automatic laser targetting system.



Range Finder: The central circle holds your target with the range given underneath.

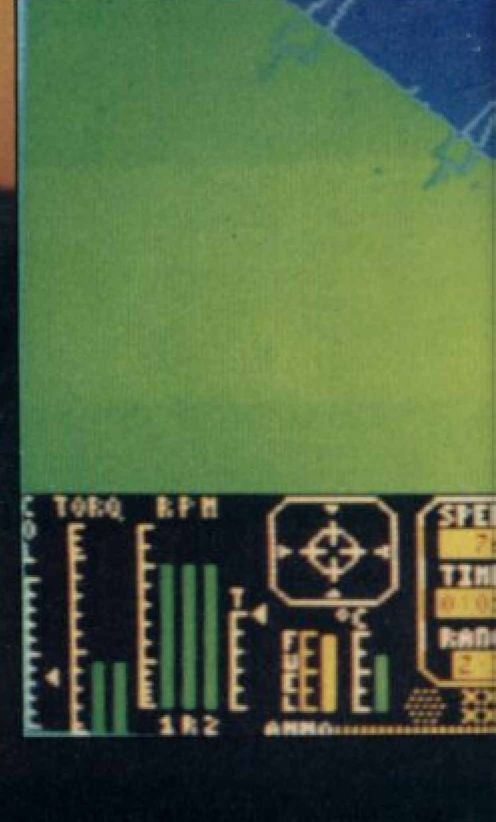
Fuel/°C: The engines will overheat if you rev them too hard, so keep an ear open for tell tale bleeps.

Ammo: Refers to the 30mm cannon. Above are the eight Hellfire missiles with the two pods of rockets.

Range: Gives the range of the current item on the visual display — far right.

Roll and Pitch: Define the attitude of the aircraft.

Navigational Display: Used to select between beacons, landing pads, enemy targets and the enemy helicopter. The top figure is the actual heading, bottom right shows the direction of your nose — you could be moving sideways — and the bottom left figure is the bearing of the target.



and artillery to fire back at you whenever within range, it's amazing how much damage a well-piloted Apache can do. I was less surprised after watching the Hughes-McDonnell sales video for the real thing.

The sight of a camouflaged Apache rearing up over the crest of a hill like the Indians of old, to blast tanks in the Arizona desert is awe-inspiring. As the syrupy commentary — as nasty a piece of war-glorification as I've ever heard — points out "It is a whimsical thought that the Battle of the Bulge could have been won with two Apaches armed only with Hellfire missiles".

Doubtless the whole of the Second World War could have been won with six. If you don't believe it, play the game.



About the programmers

DAVE MARSHALL and Rod Swift formed Digital Integration in January 1982. At the time they both worked for the Royal Aircraft Establishment at Farnborough. Dave was involved with flight simulations for the RAF, working on adapting US Air Force simulators for British use. Rod was more involved with hardware design, and the initial idea was that Digital Integration should produce both.

By September 1983 most of their spare time was taken up with running DI, and they chucked in their full-time jobs, preferring to make money on their own account rather than remain part of a large, bureaucratic organisation like the Ministry of Defence.

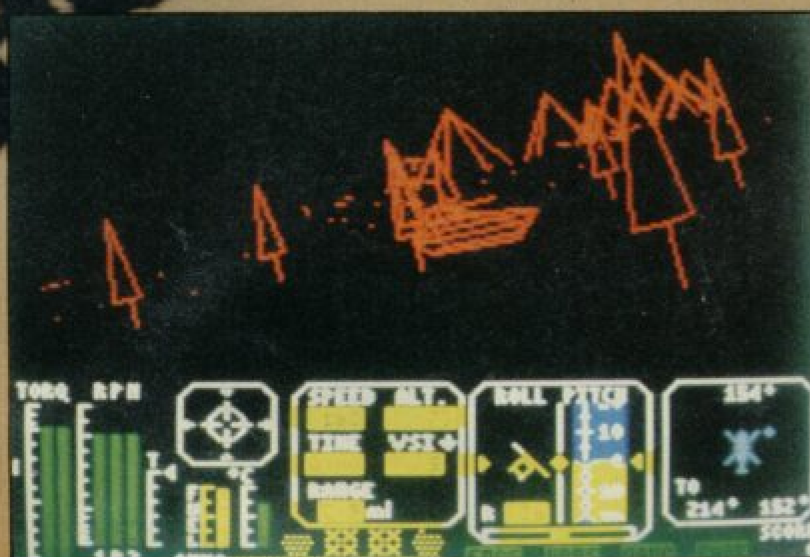
*The first version of **Fighter Pilot** was actually written for the ZX81, but it was the launch of the Spectrum which saw the company take off, in conjunction with Rod's program **Night Gunner**, a much more arcade-orientated flight program. Dave says he's still working on even more advanced techniques for flight simulators.*

In love with big motorcycles, Rod is currently doing a simulation of Grand Prix TT racing, simulating a monster Suzuki bike. The screen will be a 'rider's eye' view, with a genuine race and mysterious new graphics system.

All the programming is done on two CAL micros, under the CP/M operating system. Dave explains that that particular micro, while using the 16-bit 6088 chip, also has a Z80 making it possible to prepare code for the Spectrum.

*Although **Tomahawk** is the first DI product for 18 months, Dave and Rod swear they won't take anything like as long over the next one. More programmers have been employed, and the results, if promises are anything to go by, should be spectacular.*

Neither admit to any regrets in giving up the world of professional aviation for writing entertainment software. Well, maybe one. "I do miss one of the perks," says Dave. "I used to get the chance to fly RAF combat aircraft occasionally. It would be nice to spend more time in the air again."



Ill-met by moonlight — trees make a welcome guide to the horizon.

10 tips for novice pilots

1 For a flash take-off in combat mode you want to get up speed fast. Take the controls up to 100 per cent torque and push the nose down to 30° — you'll go from 0-100 in less than six seconds. "Not bad for eight tons of aircraft," says Dave.

2 Don't worry too much about landing. You can land anywhere, and then taxi up to the pad using the rudder to steer.

3 It's a good idea not to be too high or low when attacking. You always have to point the nose down, and if you're too high you'll find yourself diving too fast.

4 You can't shoot the tanks with guns, only with rockets and missiles.

5 The conventional way to slow down is to roll left and right, which generates more drag.

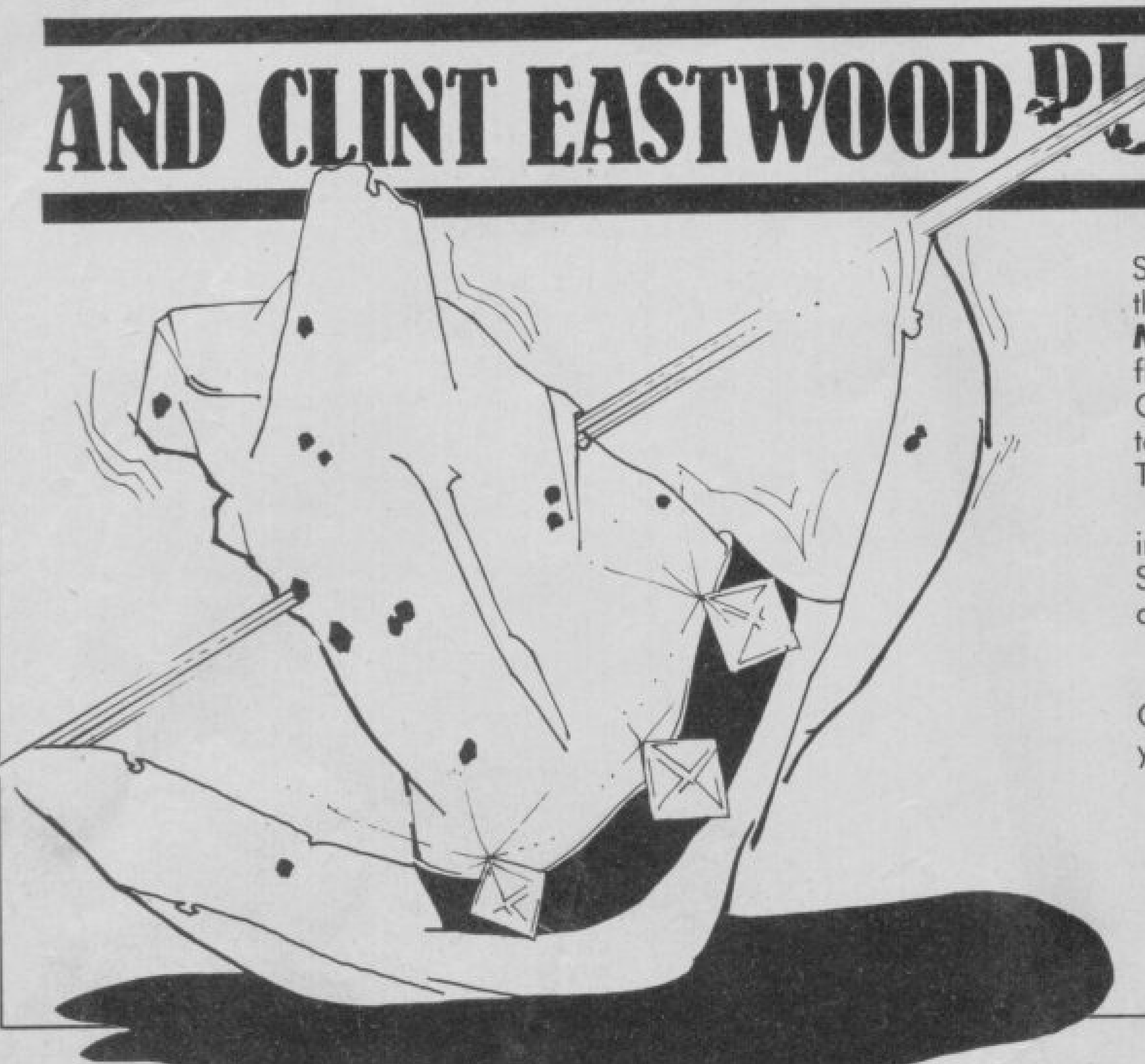
6 To make a tight turn, pull the nose up as you roll.

7 It's easier to hit the enemy helicopter when it's on the turn. It can't fly through the mountains, so if you sit behind them it'll have to come over the top and then dive.

8 At the beginning of a proper game, set your weapons to missiles and take off to above 512ft. Use the rudder to turn round on your axis and pick off all the targets under three miles away. Then you can descend to the pad directly beneath you and replenish the missiles, which gives you some spares for the enemy helicopter.

9 In the strategy game, option four, the division of territory is always different. If you want an easier game, keep breaking out until you get one you like.

10 Also in the full strategy game, take out a whole row of the enemy positions if you can, as they will not be able to recapture any once the row is complete. But be careful — they can do the same to you!



ADVERTISEMENT INDEX